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Original Article

Innovation - An Innate Trait of Rural Surgery

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Case Report

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Journal Scan



लोकाः समस्ताः सुखिनो भवन्तु

Editor :

Dr Dilip Gupta

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From The Desk of Editor

Innovation

Innovation is a broad term defined as the act of introducing something new or the use of a new idea or method. In some instances, it is used synonymously with invention, although innovation is more precisely defined as something thought up or mentally fabricated¹.

Innovation can be viewed as the application of better solutions that meet new requirements, inarticulated needs,^[2] This is accomplished through more effective, processes, services, technologies, or ideas that are readily available².

Successful innovation is about creating value. Therefore to call it an innovation, it must create a value, an idea must be replicable (what is possible with technology) at an economical cost (what is viable) and must satisfy a specific need¹ (What is desirable to users).

Incidentally this trait or quality of Indian rural surgeons may be traced back to 600 B.C and can be linked with the Father of surgery Sushruta of ancient India who by any standard was a rural surgeon. Indeed we feel amazed to imagine that even in that ancient era, he described over 120 surgical instruments, 300 surgical procedures and classified human surgery in 8 categories and vividly described the basic principles of plastic surgery in his famous ancient treatise 'Sushruta Samhita' (Excerpts From Dr SK Basu's Article)

Dr. Dilip Gupta

Editor

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Innovation - An Innate Trait of Rural Surgery

Dr. S. K. Basu

(This presentation is dedicated to Dr NH Antia- A stalwart, friend, philosopher and guide of ARSI and "Rural Surgery" movement who always felt that the originality of our members which contributes to the success of their surgery at such low cost needs to be carefully documented and the experiences exchanged.)

As I was preparing this paper I searched for an appropriate but a simple definition of "Innovation". The one I liked says "Innovation is the application of better solutions that meet new requirements, unarticulated needs, or existing market needs". Further search made me realize that quite often we use the term 'Invention' and 'Innovation' loosely, overlapping each other.

Ideally speaking "Invention" is creation of the idea or method that did not exist before whereas "Innovation" is the process of translating that idea or invention in to a good or service that creates value. The word "that creates value" is relevant. We can create a lot of fresh or new things that are of no use and no value. Transforming of the original model of motor car invented by Karl Benz in 1878 to its present form for better aerodynamics, fuel efficiency, safety, comfort and many more may be called an innovation but we should think twice before we call our ice cream topping choice of pickles as innovative. Successful innovation is about creating value. Therefore to call it an innovation, it must create a value, an idea must be replicable (what is possible with technology) at an economical cost (what is viable in the market place) and must satisfy a specific need (What is desirable to users).

Interestingly innovation is not the result of thinking differently. It is the result of thinking deliberately (in specific ways) about existing problems and unmet needs.

Incidentally this trait or quality of Indian rural surgeons may be traced back to 600 B.C and can be linked with the Father of surgery Sushruta of ancient India who by any standard was a rural surgeon. Indeed we feel amazed to imagine that even in that ancient era, he described over 120 surgical instruments, 300 surgical procedures and classified human surgery in 8 categories and vividly described the basic principles of plastic surgery in his

famous ancient treatise 'Sushruta Samhita'

The famous plastic surgeon Frank McDowell in his book "The source book of plastic surgery" aptly described Sushruta as a tribute to this great surgeon who is also known as "father of plastic surgery" all over the world: "Through all of Sushruta's flowery language, incantations and irrelevancies, there shines the unmistakable picture of a great surgeon. ...Undaunted by his failures, unimpressed by his successes, he sought the truth unceasingly and passed it on to those who followed. He attacked disease and deformity definitively, with reasoned and logical methods. When the path did not exist, he made one."

It reminds me a Zen parable which says "**The obstacle in the path becomes the path. Never forget, within every obstacle is an opportunity to improve our condition.**"

Pleasingly my long standing involvement with ARSI made me convinced that most of the rural surgeons believe in this parable and have those innate qualities as mentioned by Frank McDowell. I.e. "they are undaunted by their failures, unimpressed by their successes, and when the path did not exist, they mostly made one."

Having said this I must tell you that making that path of innovation is not always silky. Hindrances to the progress come in so many unimaginable ways, taking away the spirit and halting the progress.

Voltaire, the French historian, writer and philosopher in his book titled "*Philosophical Dictionary*" says "**Our wretched species is so made that those who walk on the well-trodden path always throw stones at those who are showing a new road.**"

How true are these words? Here is an example. Prof. Subhas Mukhopadhyay, the creator of India's first test tube baby, was truly one of the most brilliant minds the country has ever seen. This great personality was my teacher during my undergraduate days at NRS Medical College. Sadly, the inventor of a modern miracle, one that would change the lives of millions of childless couples in the years to come, had to commit suicide in the year 1981 when he was just 50 years old. While Robert Edwards, professor

emeritus at University of Cambridge, was lauded for his efforts, Mukhopadhyay was fighting a hostile state government that rubbished his findings. Ridiculed and ostracized, Mukhopadhyay was also not allowed to publicize his work in the international arena. Robert Edwards of Britain won the 2010 Nobel Prize in medicine for the development of in-vitro fertilization. Prof. Mukhopadhyay's suicide note says: "I can't wait everyday for a heart attack to kill me." It's a gut-wrenching story of a genius being humiliated, harassed and ridiculed in every possible way by jealous colleagues, jeered in his fraternity and insensitive government and driven to suicide. All because he believed he could create life outside the womb. I call it administrative barbarism. It reminds me a quote from "Shadow Kiss" written by the American fantasy author Richelle Mead, which says "Throughout history, people with new ideas—who think differently and try to change things—have always been called troublemakers." Today Prof. Mukhopadhyay is being lauded for his technique which is considered all over the world not only cost effective but best in terms of success.

It may be mentioned that Prof. Mukhopadhyay is only the third scientist from Kolkata to be included in the Dictionary of Medical Biography, published from the UK in 2007. The others are Ronald Ross and U N Brahmachary.

What is needed to become innovative?

It is said that necessity is the mother of invention, and in that sense its 'Father' is creativity and perhaps the knowledge is the 'midwife'. There is no doubt that most innovations come from necessity. Therefore it is necessary that we pay attention to small problems in our environment where we work and find simple solutions to these problems. And then we must act rather than sitting idle on the idea. We should keep innovating all the time, one step at a time by applying our wisdom, having faith on our innovative ability, by staying motivated and focused to our goal and at the same time have a determination to push through the failure. There are no such things as failure, there are only results. So, for success what we need is to take massive determined actions.

Dr R. D. Prabhu, past president of ARSI and IFRS once said **"Develop your surgery keeping your alternatives. Innovation only needs the God given wisdom. Such wisdom is seen in almost all communities. Aim for self dependence, you too can create many useful innovation."**

How wisdom and strive for self dependency helps, here is a story worth sharing:

Ms. Mamitu Gashe, Lovingly called the illiterate surgeon from Addis Ababa, was a poor victim of VVF, abandoned by her husband and family. With great difficulty and hardship

she came for treatment at a charitable hospital run by Australian Gynecologist couple Reginald and Catherine Hamline. After her VVF was successfully repaired she was given an employment in the hospital itself. Her job was to maintain hygiene and cleanliness of wards. Realizing Mamitu's wisdom and astuteness the Australian couple once gave Ms. Mamitu a break. She was given opportunity to assist in surgical procedure. Over the decades, Ms. Mamitu has gradually become one of the world's most experienced fistula surgeons. Gynecologists from around the world go to the Addis Ababa Fistula Hospital to train in fistula repair, and typically their teacher is Ms. Mamitu. Ms. Mamitu shows us what a tragedy it would be to write anybody off. So, today Ms. Mamitu is not a victim at all, but an inspiration. She did not grow up with medical aspirations, but instead with her sheer wisdom assumed the profession as a way to help women deal with a problem she once faced herself.

Therefore one must take the first step and do something and by the way who does not know the story of Crow and the pitcher from Aesop's fable, a slave who lived almost in the same era of Sushruta.

Why rural surgeons should innovate

The answer is simple. Most of the time rural surgeons work within limited resources and numerous constraints and yet they are determined to provide optimum surgical care to impoverished communities around the world. These constraints may be in the form of lack of anesthetist, lack of qualified nurses and technicians, lack of laboratory and investigative facilities, blood bank, back up services, equipments and many more. They have no other alternative but to innovate to provide that optimum surgical care. It is the result of thinking deliberately (in specific ways) about existing problems and unmet needs.

Do our rural surgeons innovate?

Yes, most of the time and in various sphere of their work.

They innovate to make their treatment cost effective, use fishnet nylon thread to suture rectus sheath and skin, use mosquito net, cut into various sizes and layered with Vaseline, as non adherent dressing material. With their innovative skill they do not hesitate to manage emergency situations. They removed foreign body from bronchus by right angled nephroscope and Dormia basket for its retrieval where ventilation bronchoscope was not available. In an emergency situation they go ahead for caesarian section under local anaesthesia.

They use gasless laparoscopy to solve the problem associated with supply of carbon dioxide gas in remote villages. This makes the procedure cost effective and yet

gives the benefit of laparoscopic surgery. They propagate the concept and train their fellow colleague. They find out innovative way to remove coin from mid esophagus by Cystoscope where there is no fluoroscope, develop indigenous way of doing dressing of infected wound with sugar or with honey and Ghee which is highly effective. As many of them cannot afford endoscopic equipment in their set up, they find out a safe and effective viable alternative to laparoscopic cholecystectomy by doing unique minicholecystectomy.

Many of the cost effective equipments that can be used in the remotest part of villages without much support or back up services have been innovated by our rural surgeons. To make it financially atraumatic, they innovated a simple technique for in house preparation of atraumatic suture. They have innovated portable affordable, ambulatory Newmon ventilator which can be used at home for ventilation to a patient, mosquito net for hernia repair, innovative sitz bath- Bhavana's procto Tub, zero cost abdominal binder, new spreader for Ramsted's Pyloromyotomy, topical vacuum therapy for Fournier's gangrene, innovative way of doing Single Incision Laparoscopic Ovarian Cystectomy. These are just few of the examples.

As mentioned By Dr. Prabhu, they develop their surgery keeping alternatives and by their sheer wisdom our rural surgeons take up challenging cases and solve the problems even when they are handicapped by proper equipments or instrument. They demystify plastic surgery by performing those difficult corrective procedures regularly and successfully at remotest village of Himalaya where infra structure is virtually nonexistent.

They find non conventional energy sources by making their own biogas plant in an innovative way by using biomedical waste thereby minimizing green house effect and at the same time solve the problem of biomedical waste disposal.

Grappled with inadequacy of basic infra structure they overcome most of those irritation by sheer grit, ingenuity and an inborn penchant for creativity and innovation. They store God send rainwater and use it when corporation water supplies not available, generate their own energy source when national power grid fails to supply electricity, produce their own intravenous fluid to treat patients which is 20 times cheaper that the commercially available saline. They construct distillation set that works with Bunsen burner, autoclave fabricated from butane gas cylinder that can be operated with any heat source, fabricate their own OT furniture, device their own equipment and machine for carrying out needed basic diagnostic and lab test. They are all creative and innovative. Creative, because they thought

of something new and innovative, as they did something new which has tremendous value, replicable, cheap and satisfy their need.

It is said innovation distinguishes between a follower and a leader. Because of their fondness and innate quality for innovation, I consider rural surgeon, in their own rights, are leaders of the society. For them "I can" is more important than "IQ"

Having said these I think that time has come where rural surgeons should strive to play a much bigger role to make affordable quality healthcare available to the masses worldwide and think of reverse innovation. Efforts are on and it has already taken its root.

Historically, MNC developed new product in the developed countries & sell it to the emerging economy. Reverse innovation is just doing the opposite. It develops the products in the emerging markets (developing world) & sell it to the developed world. Reverse innovation refers broadly to the process whereby goods developed as inexpensive models to meet the needs of developing nations, are then repackaged as low-cost innovative goods for Western buyers

Mosquito net used for hernia repair in place of commercially available mesh is one such example and is getting popularity all over the world and beating the bulge. It is at present is being used in 20 countries, and so cheap (20 paisa as compared to Rs 6500/-) as compared to commercially available mesh.

There are many such examples like battery operated ECG machine (Rs 30000/- as compared to Rs.270650/-) invented in India, can be operated anywhere, easy to handle, take it to your back pack at any place even where is no electricity.- very popular in other countries.

In this context let me mention about two hospital which have brought revolution in health care and proved to the world that even at a very cheap price surgical care with best technology and sophistication can be provided that too with compassion and courtesy and obviously drew attraction of the world

Aravind Eye Hospitals, are one of the biggest networks of ophthalmology hospitals in the world and is believed to be the largest provider of eye surgeries in the world conducting nearly 10% percent of all eye surgeries in the world. Started in 1976 by Dr. G Venkataswamy and named after the Sri Aurobindo, one of the 20th century's most revered spiritual leaders. Dr. Venkataswamy believes not simply going well beyond the sophistication of the best technology but also to the humble demonstration of courtesy and compassion to each patient (cataract surgery

at Aravind Eye hospital – Rs. 1800 as compared to Rs1, 80,000 in US).

NH Hospital - Some call it a temple. Some chose to call it the abode of saints who heal. To some, it's a last chance of survival. But to no one, is this just a hospital. In its genre, Narayana Hrudayalaya may well be one of the biggest hospitals in the world, but the fact that it's one of the biggest hospitals, with a heart, is becoming legendary (Open heart surgery- Rs. 1,20,000 as compared to Rs 30,07000 in US).

My presentation will remain incomplete if I don't say a few words about my own institution Rural Medicare center popularly known as RMC and more popularly known as Banerjee Hospital. Starting its journey 37 years back from a small godown, meant to store fodder for cattle's, RMC today is on a strong pedestal. It has proved to others that even with unbelievably cheap rate it can provide very high degree of surgical and medical care to the rural and peri-urban community and yet remains self sustained in a mega city like Delhi, at the same time providing employment to at least 80 members of local community. Irrespective of rich and poor, patients come here for the kindest care and no one here is turned away for lack of funds. Totally being run by the consultants who work here, RMC has shown its leadership quality in various activities of ARSI. I once again go back from where I started; "Therefore to call it an innovation, it must create a value, an idea must be replicable (what is possible with technology) at an economical cost (what is viable in the market place) and must satisfy a specific need. (What is desirable to users?)" RMC fulfills all those criteria. That is why I call the concept on which RMC functions in it is a great innovation.

And finally here is a message from Margaret Mead, the American cultural anthropologist for those who are still bewildered about the grit, ingenuity and an inborn penchant for creativity and innovation, of rural surgeons "Never doubt that a small group of thoughtful committed citizens can change the world. Indeed, it is the only thing that ever has."

Adult diaphragmatic hernia presenting as emergency: Case review of Four Patients.

Katakwar Abhishek¹, Naikwade Rahul¹, Thakur Mukund¹, Mukewar Shrikant²

Abstract

Adult onset diaphragmatic hernia is a rare condition with variable manifestations. The incidence of congenital diaphragmatic hernia (CDH) is about 4.8/10,000 live births¹. Symptomatic presentation in an adult patient is rare and it might confuse the treating physician leading to misdiagnosis. Prompt diagnosis and surgical repair is recommended by most authorities. Traditionally diaphragmatic hernia is repaired by laparotomy or thoracotomy, or both. Herein, we report four cases of left sided diaphragmatic hernia in adults who presented with acute symptoms. Three were managed laparoscopically and one required open repair.

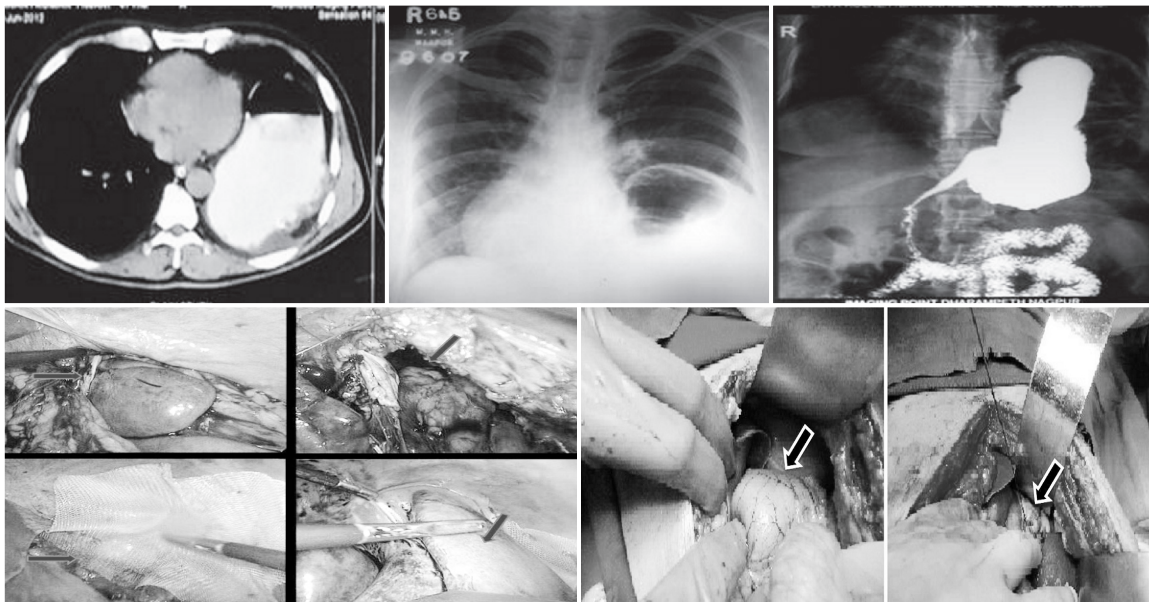
Key words: Bochdalek, diaphragmatic hernia, laparoscopy, traumatic hernia

Introduction

Bochdalek hernia is a type of congenital diaphragmatic hernia that primarily manifests in children. It is rare in adults and accounts for about 0.17% to 6% of all diaphragmatic hernias.¹ Bochdalek hernia affects approximately 1 in 2200 to 12,500 live births and was first described by Vincent Alexander Bochdalek in 1848.³ Presentation of this hernia in an adult is exceptionally rare. Kirkland in 1959 published the first review of 34 cases of adult Bochdalek hernia and upto 1992 only 100 cases of symptomatic adult Bochdalek hernia have been reported in world literature.⁴

Case reports

Case one- A forty seven year old male presented with a history of intermittent upper abdominal pain and dyspepsia, with an increase in severity since 5 days.



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Physical examination was unremarkable. Chest and abdomen radiograph revealed elevated left hemidiaphragm with end of nasogastric tube seen below the elevated diaphragm. In addition blunting of left

cardiophrenic angle was noted, likely secondary to pleural effusion (**Figure 1**). Gastroscopy showed edematous gastric mucosa with diffuse erosions, altered axis at body and antral junction. With difficulty gastroscope could be negotiated and pylorus seen which was normal. Provisional diagnosis of gastric volvulus was made (**Figure 2**). Ultrasonography was suggestive of sludge filled gallbladder with minimal left pleural effusion. Abdominothoracic CT scan revealed large defect in left postero-lateral hemidiaphragm with presence of spleen and stomach in thoracic cavity along with left lower lobe consolidation and pleural effusion (**Figure 3**). Patient underwent laparoscopic surgery (six ports) in leg apart position under general anesthesia and per operative findings revealed herniation of nearly all the stomach, entire spleen and part of splenic flexure through a smooth defect of size 3x4 cm in the posterolateral aspect of left hemidiaphragm. Despite multiple attempts all the contents could not be reduced in to the peritoneal cavity due to large size of spleen and obesity. Hernial content were reduced in to peritoneal cavity after splenectomy. The defect was repaired with interrupted prolene 2-0, buttressed by a 4x6 inch prolene mesh and secured with helical tacker (**Figure 4**). Spleen was retrieved by endobag. A chest drain was inserted to the left thoracic cavity along with an abdominal drain which was kept in left hypochondrium and port sites were closed using subcutaneous vicryl 3-0. Both drains were removed on the third day. Patient was given pneumococcal vaccination and had an uneventful postoperative recovery. An upper gastrointestinal barium study after 10 days revealed no evidence of any herniated bowel loop in the thoracic cavity. Patient was discharged on eleventh post-operative day.

Case two- A 50 year old female, with past medical history significant for hypertension presented with colicky abdominal pain, distention and nausea of five day duration. Detailed history revealed that she was diagnosed with left sided diaphragmatic eventration ten years back and was advised to undergo surgical repair. However, she had declined. During the last ten years, she had intermittent left upper abdominal discomfort, which was relieved by medications. However this time it was severe enough to need medical assistance. Her physical examination revealed abdominal fullness, but no guarding with absence of breath sounds in left thorax. Given her history, a provisional diagnosis of left diaphragmatic eventration with intestinal obstruction was made. Her chest radiograph revealed elevated left hemidiaphragm (**Figure 5**). Barium meal was suggestive of part of stomach in left lower thoracic cavity (**Figure 6**). Gastroscopy showed features of gastric volvulus. A CT scan of abdomen confirmed it to be

left diaphragmatic hernia with presence of stomach, small intestine, colon and spleen as contents (**Figure 7**). Laparoscopy confirmed diaphragmatic hernia of size 5x3 cm. All contents were reduced in peritoneal cavity followed by hernial defect repair with prolene 2-0 suture along with polypropylene mesh (4x3 inch) fixed with helical tacker (**Figure 8**). Intercostal drainage tube was kept for three days. Postoperative period was uneventful and patient was discharged on eight post operative day.

Case three – A 47 year old female presented with history of intermittent epigastric and left hypochondrium pain radiating to left shoulder associated with vomiting for three months. Her symptoms aggravated in the last two days prompting her to seek urgent medical attention. She also gave history of accidental fall five months back causing blunt trauma to her upper abdomen but did not require any medical aid. She had also undergone appendectomy, cholecystectomy and hysterectomy in the past. Her physical examination was normal. Gastroscopy suggested para-esophageal hernia. Ultrasound and two dimensional echocardiography were normal. CT abdomen revealed left diaphragmatic hernia with herniation of fundus of stomach into intrathoracic space (**Figure 9**). Laparoscopic hernia repair of defect (3x2 cm) by prolene 2-0 with Left intercostal drainage tube insertion done (**Figure 10**). Post-operative recovery was satisfactory and patient was discharged on tenth post operative day.

Case four- A 19 years old girl presented with history of severe abdominal pain mostly on left side. She had no other associated symptoms. On examination she was tachycardic, tachypnoeic and hypotensive. Abdomen was soft but tender. Breath sounds were absent on left lower thorax with some gurgling sounds. Her chest x-ray and ultrasound showed presence of intestinal loops and part of stomach in left hemithorax. We suspected she had left diaphragmatic hernia with impaired vascularity of hollow viscus. Given severity of her symptoms; she was taken for emergency laparotomy. Intraoperative finding confirmed left sided diaphragmatic hernia of size 8x8 cm with herniation of transverse colon, stomach and spleen. All the contents were reduced to peritoneal cavity with closure of defect with interrupted 2-0 ethibond sutures reinforced with 4x6 inch prolene mesh. She also had non-fixity of caecum, hepatic flexure, requiring caecopexy and colopexy (**Figure 11**). Intercostal drainage tube was kept in left side. She had very fast recovery and went home on seventh postoperative day.

	Case 1	Case 2	Case 3	Case 4
Age in year/ Sex	47/male	50/Female	47/female	19/Female
Presentation	<ul style="list-style-type: none"> • Abdominal pain • Dyspepsia • Nausea 	<ul style="list-style-type: none"> • Diagnosed case of left sided diaphragmatic hernia. • Colicky pain • Distension trauma upper abdomen 	<ul style="list-style-type: none"> • Left hypochondriac & shoulder pain • Vomiting • History of blunt 	<ul style="list-style-type: none"> • Severe left upper abdominal pain • Shock
Investigation	CXR-PA view, X-ray Abd AP, UGIE, USG, CT Abd / thorax	CXR -PA, UGIE, CT Abd	CXR-PA, UGIE, USG, CT Abd	CXR - PA, USG
Surgical method with finding	Laparoscopy, Left posterolateral hernia	Laparoscopy, Left posterolateral hernia	Laparoscopy, Left posterolateral hernia	Open, Left posterolateral hernia
Hernia content	Spleen, stomach, splenic flexure	Stomach, jejunal loops, colon, spleen	Stomach	Spleen, stomach, colon
Defect size	3 x 4cm	5 x 3 cm	3 x 2 cm	8 x 8cm
Hernial sac	Dissected	Dissected	Dissected	Left behind
Defect closure	Prolene 2-0	Prolene 2-0	Prolene 2-0	Ethibond 2-0
Mesh size	4 x 6 inch	4 x 3 inch	No mesh	4 x 6 inch
Discharged on post operative day	11	8	10	7

Discussion

Adult left sided posterolateral diaphragmatic hernia also known as bochdalek hernia is due to delayed presentation of the congenital type or it may occur secondary to a trauma. It is the most common congenital diaphragmatic hernia which presents in newborn with respiratory distress⁵. Congenital variety occurs due to the abnormal persistence of the pleuroperitoneal canal during the 8th–12th gestational weeks. The right canal usually closes early, leading to hernias which occur more commonly on the left side. There is a male preponderance of 2:1 among the newborns. Few cases may be seen in early childhood. The incidence of the delayed presentation in adults varies from 0.17-6%². Trauma, both blunt and penetrating type, is a common cause. Blunt trauma causes 75% of the cases. More than half of the cases occur on the left side. Diaphragmatic rupture leading to hernia occurs at the central tendon or at the boundary between the tendinous and muscular parts of the diaphragm .6,7 Our third patient had history of accidental fall with blunt trauma to abdomen. Most of the patients are asymptomatic and incidentally diagnosed with diaphragmatic hernia when investigated for other disorders. The symptoms, if present, are related

to the gastrointestinal tract and they rarely involve the respiratory system. In right-sided hernias, the contents are predominantly the liver, the kidney, and fat, whereas left-sided hernias contain the enteric tract, the spleen, the liver, the pancreas, the kidney, or fat. The colon-containing hernias are rare and they usually occur through left-sided defects, as was seen in our case. Most of the complications are related to incarcerations of the small or the large bowel. Chest X-rays with bowel contrast studies, CT scans of the chest and the abdomen are required to diagnose this condition with later being more specific². In our first three cases diagnosis of diaphragmatic hernia was confirmed by CT scan, where as fourth case was confirmed by Ultrasound and X-ray chest. A peritoneal sac surrounding the content may or may not be there (its incidence varies from 10 to 38 %)². The questions of whether to excise the hernial sac or leave it in place and of how to close the defect laparoscopically remain controversial. We had dissected sac in first three cases leaving it in fourth case as hernia size was big. Some authors advise excision of the sac, while others believe that the sac should be left because of the risk of pneumomediastinum and other cardiovascular complications that may arise because of dissection of the mediastinum. Many authors have now

advocated leaving the sac in place, particularly in large hernias.⁸ If it is absent, it leads to bowel adhesion on intrathoracic organs, which needs a tedious dissection, making reduction through a laparotomy difficult. We did not require thoracotomy in any of our cases but it's a preferred route in a chronic traumatic or a long standing, diaphragmatic hernia⁹. The size of the defect in the diaphragm may vary, but rarely is the diaphragm totally absent. Small defects are primarily closed with interrupted non-absorbable polypropylene sutures. A larger defect is covered with a prosthetic mesh repair with margin of at least 3-4 cm beyond the edge of defect, which is fixed with spiral tacks⁸. The complete or near complete defects pose a surgical challenge, as the entire tissue has to be replaced by a prosthetic mesh. A dual-mesh which has both absorbable and non-absorbable surfaces provides a good alternative in dealing with such situations. Using a prosthetic mesh in a contaminated field creates a difficult situation, but it has been used both in the open and the laparoscopic routes, with successful outcomes^{10,11}. In first and second case, apart from the usual surgical complications that the diaphragmatic hernia posed, the difficult task was to fix the mesh to the structures which were in the vicinity of the defect, to provide stability for the mesh to tolerate the immediate post-operative increased abdomen pressure. Awareness on the abdominal compartment syndrome during the early postoperative period is also essential in cases where large hernias have been reduced¹². To conclude diaphragmatic hernia in adults is mostly incidental finding during investigation for vague symptoms like dyspepsia, dyspnoea or long standing thoracic discomfort, but few patients may present with acute symptoms mimicking angina, perforation or pancreatitis demanding immediate medical attention. Hence a careful examination, strong index of suspicion and imaging studies like computed tomography is needed to arrive at a correct diagnosis.

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Multifocal Skeletal Tuberculosis in Immunocompetent Patient: A Case Report

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Abstract

Tuberculosis is as old as mankind and prevalent in developing countries. Bone tuberculosis is one of the extra pulmonary manifestations of this disease and accounts for 1-3% of cases. Skeletal tuberculosis is monoarticular in 90-95 percent cases. Good post operative physiotherapy, adequate nutrition, healthy environment and anti tubercular treatment (ATT) are must for recovery. Our patient had multilevel spinal involvement with bilateral hip affection which is a rare type of presentation. A high index of suspicion is required in every patient having multiple destructive bony lesions in endemic areas. This reduces delay in treatment and improves overall outcome.

Keywords: Multifocal Tuberculosis, Tubercular Arthritis.

Introduction

Tuberculosis (TB) is as old as mankind. Multifocal skeletal tuberculosis is defined as occurrence of osteoarticular lesions at two or more sites in the body simultaneously¹. Bone tuberculosis is one of the many extrapulmonary manifestations of TB and accounts for 1-3% of total cases². Skeletal tuberculosis is monoarticular in 90-95 percent cases³. Vertebral column is involved in about 50% cases². Multiple joint involvement is rare even in endemic zones accounting for less than five percent of cases⁴. It is frequently associated with disseminated disease. Patient presents with complaints of vague pain, joint swelling and restriction of movement of the part affected. This creates dilemma in diagnosing the condition and is mistaken for seronegative inflammatory arthritis. A high index of suspicion is required for proper diagnosis and early treatment. In such cases identification of mycobacterium in the synovial fluid, biopsy of the tissue, its culture-cytology along with certain radiological and hematological features are required⁵. Computed tomography (CT) and MRI are now indispensable in differentiating this condition from others like metastasis,

multiple myeloma and lymphoma. BACTEK and PCR (Polymerase Chain Reaction) specifically identifies mycobacteria in the tissue and are very fast. Multilevel spinal involvement with polyarticular disease in an immunocompetent patient is exceedingly rare which is presented in this case report.

Case Report

61 year old female presented with low back pain, weakness of both lower limbs and difficulty in walking since last 1 year. Her past history revealed operative procedure of the right hip joint few months back, records of which were not available with the patient. X-ray showed that excision of femoral head and neck was done on the right side. Histopathology reports from the operating surgeon were inconclusive and they were considering avascular necrosis of femoral head since it was a bilateral affection of the hip joint. Examination showed tenderness at thoraco-lumbar junction with restriction of movements of cervical spine. Power was grade four in both lower limbs without any other neurological deficit. Movements at right hip joint were exaggerated. There was gross restriction of movements at left hip associated with pain and spasm. Bilateral knee joints showed restricted mobility with 10-15° flexion without any deformity. Patient was bedridden for last 9 months.

X-ray of cervical spine showed wedge compression at fourth, fifth cervical vertebra. X-ray of lumbo-sacral spine also showed involvement of first lumbar vertebra. X-ray of pelvis with both hips showed evidence of head neck excision of right femoral head with deformed, subluxated femoral head was on left side (Fig.1). Her blood count showed anaemia with Hemoglobin of 9.5gm%, erythrocyte sedimentation rate (ESR) of 44 mm in 1st hour and positive C-reactive protein. Urine for Bence Jones protein, Rheumatoid factor, HIV test, test for sickling and HLA-B27 were negative. Chest X ray, serum uric acid and renal function were normal.

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FIG1:Radiograph,TB arthritis of Left hip.

MRI of pelvis and spine was done. T2 weighted images of spine showed multiple level vertebral bodies and disc involvement likely to be tubercular spondylitis at cervical C5-7 and dorsolumbar D12 -L1 region (Fig.2). MRI pelvis revealed right hip pseudoarthrosis with absence of head and neck. Left hip showed pseudoarthrosis with deformed destructed head and synovial thickening secondary to infective arthropathy(Fig. 3). Anti-Tubercular Treatment (ATT) in the form of SHRZ (streptomycin, isoniazide, rifampicin, pyrazinamide) was started after the MRI.



FIG2 : MRI multilevel tuberculosis.



FIG3 : Head neck excision on Rt.hip and TB arthritis on Lt. side.

Head neck excision of left hip was done. Material was sent for histopathological examination, which showed granulation tissue with giant and epitheloid cells, consistent with tubercular infection (Fig. 4). Clinico-radiologically the diagnosis was almost sure and histopathology confirmed tubercular granuloma. So it was concluded that the patient had multifocal tuberculosis. PCR was not done to avoid economic burden on the patient.



FIG4: Histopathology - granulation tissue with multiple giant cells and epitheloid cells

Post operatively she was put on upper tibial skeletal traction and physiotherapy. With proper nutrition, ATT and physiotherapy, her pain resolved along with

lowering of ESR and building up of hemoglobin. She was advised ATT for 18 months. In this case time from presentation to diagnosis was approximately three weeks. She was discharged five weeks postoperatively.

Discussion

Skeletal tuberculosis even though not so frequent accounts for a large number of cases in populated countries like India and China. Around fifty percent of cases may not show pulmonary involvement.

Difficulty in diagnosing such cases is due to the vague symptoms and non specific physical findings that give rise to large number of differential diagnosis including malignant disease⁶. Hematological investigations though not very specific, are indicative of infective pathology with lymphocytosis and raised ESR. Plain radiology makes the diagnosis easier showing bony destruction with osteoporosis. To differentiate it from other conditions like eosinophilic granuloma and multiple myeloma additional investigations including CT, MRI and bone scans are required. These provide a three dimensional image of the site for surgery & diagnose the condition early when radiography is negative^{7,8}. Confirmation of diagnosis requires biopsy of the affected site for histopathology.

Antitubercular drugs are an excellent cure provided their schedule is followed with good nutrition, adequate physiotherapy and healthy environment. Surgery is required in patients with deformities or neurological involvement not responding to ATT. Our patient had multilevel spinal involvement with bilateral hip affection which is a rare type of presentation⁹. Her old age and multiple spinal involvement were suggestive of some

metastatic disease. But previous surgery on right hip and present condition of left hip were in favour of inflammatory pathology. Biopsy confirmed the diagnosis and patient responded to antitubercular therapy. In order to reduce her pain and clear the disease from the left hip joint, surgery was a valid choice. At the time of discharge patient was nonambulatory due to bilateral unstable hips.

This case report shows importance of patient education regarding TB that it can be treated adequately if diagnosed early. It also revealed the role of medical professionals in making early diagnosis and initiating prompt treatment in reducing sufferings and post operative disability of such patients.

Conclusion

Although tuberculosis is very common in prevalence, many times it is misdiagnosed, either due to wide range of its tricky presentations or due to failure on part of treating surgeon. It is required for an orthopaedician to suspect tuberculosis in every patient having multiple destructive bony lesions unless proved otherwise in endemic areas.

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Giant Mucocele of the appendix: a case report.

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Abstract

Appendiceal mucocele is a rare disease. It occurs when obstruction of the appendiceal lumen results in mucus accumulation and consequent abnormal dilatation of the appendix. It can present either with a variety of clinical symptoms or occur as an incidental surgical finding. It is rarely diagnosed preoperatively. Correct diagnosis is important for the selection of adequate surgical treatment and to avoid complications. It is possible to correlate the size of a mucocele to its histology which can be either inflammatory or neoplastic. We present a case of a 53-year-old woman who was explored with a diagnosis of ovarian/mesenteric cyst and the giant mucocele, 12cm x 5cm, was diagnosed intra-operatively. Simple appendicectomy was done. Histopathologic diagnosis was chronic inflammatory pathology of the appendix. After 2 years, the patient is doing well.

Keywords: Mucocele, appendix, pseudomyxoma peritonei, appendicitis.

Introduction

Appendicular Mucocele is a rare entity, wherein, there is a progressive dilatation of the appendix from the intraluminal accumulation of mucoid substance, secondary to obstruction to the appendiceal lumen¹. The incidence is 0.2% to 0.7% of all appendicectomy specimens.² There are 4 histologic types of appendiceal mucocele: retention cyst, mucosal hyperplasia, mucinous cystadenoma, and mucinous cystadenocarcinoma¹. The symptomatology varies widely and preoperative diagnosis is often missed. Treatment depends on the diagnosis and if treated improperly, the mucocele may progress, epithelial cells may escape into the peritoneal cavity, and pseudomyxoma peritonei may develop, which has a high mortality.³

We present a case wherein preoperative diagnosis was of ovarian or mesenteric cyst and appendiceal mucocele was diagnosed only intraoperatively. An appendicectomy was performed. The specimen showed chronic inflammatory features and the patient on subsequent follow-up has

remained asymptomatic.

Case report

A 53 year old female, with sickle cell trait, presented to the Department of Gynecology with complaints of white discharge per vaginum and increased frequency of micturition. Her general physical examination revealed mild pallor. On abdominal examination a soft, cystic mass was palpable in her right iliac fossa which had restricted mobility and was non tender. Uterus was small and freely mobile. Her hemoglobin was 7.4. Biochemical parameters were within normal limits. Urine examination including culture studies was normal. Ovarian tumor markers were negative. CT scan was done which reported, a well defined non-enhancing, hypo dense lesion of size 11.5 x 3.5 cm in the pelvis on the right side, posterior to the uterus. Possibility of a mesenteric cyst was kept. With the diagnosis of an ovarian cyst and possibility of a mesenteric cyst the patient was explored. Intraoperatively both the ovaries were visualized and were normal. The cystic mass was a giant appendicular mucocele of size 12 x 5 cm. There was no spillage of contents and no evidence of lymph nodes or other tumours in the colon and rectum. Simple appendicectomy was performed. Patient had an uneventful post op course and on follow-up of two years has remained alright.



Figure 1: Intra-operative picture of the hugely distended mucocele of the appendix.

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Discussion

Mucocele of the appendix was recognized as a pathologic entity by Rokitsky in 1842 and was formally named by Feren in 1876.^{4,5} Its incidence ranges between 0.2% and 0.7% of all excised appendixes.² This condition can have benign as well as malignant processes. According to modern classification, there are 4 histologic types: retention cyst, mucosal hyperplasia (5-25%), mucinous cystadenoma (63-84%), and mucinous cystadenocarcinoma (11-20%).^{1, 3, 6} Dispersion and establishment of cystadenocarcinoma cells throughout the abdomen may lead to pseudomyxoma peritonei which can occur as a result of perforation of the mucocele or invasion of the appendiceal wall. This carries a high mortality.³

The clinical flow of the disease does not have a specific picture. Patients are often asymptomatic. In about 50% of cases, it is discovered accidentally during radiologic and endoscopic examinations or at surgery. A patient's clinical symptoms may be of pain in the right lower quadrant of abdomen, palpable abdominal mass, nausea, vomiting, weight loss, gastrointestinal bleeding, or signs of intussusception of the intestines.⁷

Preoperative diagnosis of appendiceal mucocele is possible with USG, computed tomography and colonoscopy when clinically suspected. USG is the first-line diagnostic method for patients with acute abdominal pain. In acute appendicitis, the outer diameter threshold of appendix is 6 mm. Diameter of 15 mm and above is suggestive of a mucocele with 83% sensitivity and 92% specificity.⁸ Cystadenomas and cystadenocarcinomas attain large dimensions up to 6 cms in diameter.¹² Our case had an unusually large dimension for a benign mucocele. CT is the most accurate method of diagnosis for mucocele of appendix. The signs specific to mucocele are, appendix lumen more than 1.3 cm, its cystic dilatation, and wall calcification.⁹ Colonoscopy reveals an elevation of the appendiceal orifice and a yellowish mucous discharge from this orifice the 'volcano sign'. It can also pick up synchronous and metachronous tumors of the colon found in 10-11% of patients with cystadenocarcinoma of the appendix.^{10, 11} Appendiceal mucocele, however, is most frequently diagnosed at the time of surgery and occasionally only at pathological examination. Despite the specific endoscopic, ultrasonographic, and radiologic features described, preoperative diagnosis, in the majority remains elusive.¹² In our patient, in view of her postmenopausal status and mass in the right iliac fossa, its cystic nature on ultrasound and CT scan led the clinicians to believe it to be an ovarian pathology. CT scan was

suspicious of a mesenteric cyst and yet the final diagnosis could be ascertained only on laparotomy.

The cardinal principles of surgical treatment of mucocele are to keep the mucocele intact in order to prevent pseudomyxoma peritonei from developing.^{11, 12, 13} Hence, selection of an adequate surgical method is very important. Some surgeons favor open surgery against laparoscopy, and believe that if an appendiceal mucocele is encountered, one must convert into open surgery. Their twofold objectives are; (1) to perform surgery carefully so as to avoid cyst rupture and spillage of contents into the peritoneal cavity and (2) with open surgery it is possible to have a better inspection, palpation, and direct perception of other spots in the abdomen where mucinous tumors are common.^{11, 12, 13} Other surgeons consider that laparoscopic method, by adhering to safety rules, especially using endobag for retrieval of specimen renders the procedure equally safe.¹⁴

An algorithm for the selection of the type of surgery has been furnished by Dhage-Ivatury and Sugarbaker.^{11, 13} It envisages factors like, Is the mucocele perforated? Is the base of the appendix (margins of resection) involved? And, are there positive ilio-colic or meso-appendicular lymph nodes? Based on these, patients may require different operations: from appendectomy to right hemi-colectomy. Some may need cytoreductive surgery, heated intraoperative intraperitoneal chemotherapy or early postoperative intraperitoneal chemotherapy.¹²

In our patient the mucocele was not perforated (no discharge into the peritoneal cavity), there was no pathologic process in the base of the appendix (negative margins of resection), and the regional lymph nodes were negative. Therefore, only appendectomy was performed, which is an adequate surgery in such a case. Also, according to the algorithm, no long-term follow-up is required for our patient, though, she has kept in touch.

Conclusions

Appendix of the mucocele is a rare condition usually diagnosed incidentally or intra-operatively. In spite of investigations available, pre-operative diagnosis could still remain obscure. CT scan is the best modality for diagnosis as also for the spread of the disease. The etiology of mucocele could be either benign or malignant. Operative modality for an uncomplicated, benign mucocele like in our case is a simple appendectomy. In lesions suggestive of tumorous origin, care should be taken to prevent spillage and a more extensive surgical procedure may be required. An attempt should always be made to look for the cause of mucocele and presence of synchronous tumours.

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Trichotillomania: A Diagnosis Revisited

Sonia Jain*, Neha Pandey**, Esha Bisne***,

Abstract

Trichotillomania is a psychiatric disorder with dermatological expression. It is classified as an impulse control disorder by DSM-V, and is the compulsive urge to pull out one's own hair leading to noticeable hair loss, distress, and social or functional impairment, and in some cases one may even consume the hair. It is often chronic and difficult to treat.

Key words : Trichotillomania, tonsure hair loss, hair pulling madness

Introduction

Trichotillomania is a psychiatric disorder with dermatological expression. It is classified as an impulse control disorder by The Diagnostic and Statistical Manual of Mental Disorders (DSM- V), and is the compulsive urge to pull out one's own hair leading to noticeable hair loss, distress, and social or functional impairment, and in some

Case Report

We report a case of an old lady aged 55 years who presented to us with complaints of a bald area of scalp over the left frontoparietal region (Fig.1). Her detailed history elicited that she had suffered emotional trauma 10 months back when she lost her son who committed suicide; and it coincided with the onset of baldness. She showed no other signs of stress. She admitted the fact that she pulled her hair on her own to get relief from her distressing symptoms of itch and the sensation of crawling insects. Her grandson accompanied her who gave us history that she was otherwise normal in her daily activities and habits. The detailed examination of the bald area revealed a well defined bald area in the left frontoparietal region with the typical 'tonsure pattern' sparing the scalp margin. The hair were twisted and broken at various distances from the scalp, though the scalp skin appeared normal without any atrophy. The hair pull test was negative. There were no



Fig 1.

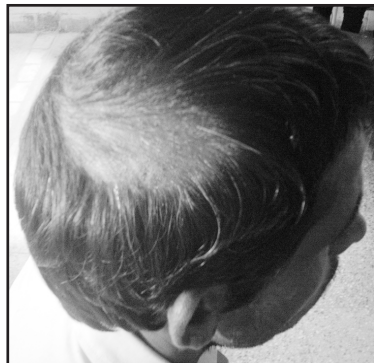


Fig 2.

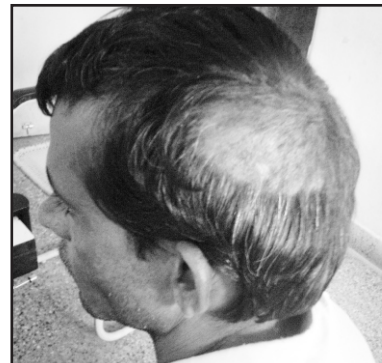


Fig 3.

cases one may even consume the hair. It is chronic and difficult condition to treat.

We herein report case reports of two patients of different age groups suffering from the same disorders but the etiology was so different. Even in this hi-tech era, emotional upset can have a deleterious effect on human existence.

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associated bald areas anywhere else on the body. Interestingly, she had an insight to her problem and admitted the sense of gratification and relief she got in the act. There was however no evidence of suggestive of trichophagia; a condition where the patient eats the plucked hair. Boiopsy was done to rule out other mimicking conditions of alopecia and it was consistent with the diagnosis. Psychiatric consultation was advised for her and she responded to therapy. She was advised a regular follow up with us. Our second patient was a 40 years old

man who presented to us with a bald patch over occiput extending bilaterally to the parietal region for the past two years (Fig.2 & 3). He also had similar patches of hair loss over both his shins. He admitted of having pulled his hair by himself and the sense of gratification he received after the act. His wife gave the detailed history about his social behaviour and admitted that he was worried for the past few years regarding the swelling he had over the right side of his neck which was a colloid goitre. Though he had undergone a detailed evaluation of his swelling and received appropriate treatment for the same but his apprehension was not rescued. He refused to get a scalp biopsy, so on the basis of history and examination psychiatric consultation was advised with a regular follow up.

Discussion

French dermatologist Francois Henri Hallopeau way back in 1889 described the condition, which is rightly defined as a psychopathological disorder with a dermatological expression that occurs in 0.6 percent to 3.4 percent of the population.^{1,2} Trichotillomania (meaning hair pulling madness in Greek) occurs in two forms; one in children and the other in adults.³ In the former it is similar to the habit of thumb sucking and nail biting with a predisposition in boys.⁴ The latter is known to occur predominantly in females wherein it probably presents as a symptom of several different psychopathologies like obsessive compulsive disorder, personality disorder, body dysmorphic disorders, mental retardation and psychosis.⁵ Trichotillomania is usually confined to one or two sites as in the present case but can involve multiple sites.⁶ The scalp is the most common pulling site, followed by the eyebrows, eyelashes, face, arms and legs.⁷ The classic presentation is the friar tuck form of the vertex and crown alopecia.⁸

The American Psychiatric Association has classified the condition under an impulsive control disorder and it does share some features of obsessive compulsive disorder (OCD). The Diagnostic and Statistical Manual of Mental Disorders (DSM- V) criteria for the same are

- Recurrent pulling out of one's hair resulting in noticeable hair loss.
- An increasing sense of tension immediately before pulling out the hair or when attempting to resist behaviour.
- Pleasure and gratification or relief when pulling out the hair.
- The disturbance is not better accounted for by another mental disorder and is not due to a general

medical condition (eg. a dermatological condition).

- The disturbance causes clinically significant stress or impairment in social, occupational or other important areas of functioning.

The condition also needs to be differentiated from alopecia areata where one finds a completely bald area without any hair; and in contrast with exclamation mark hair, the broken hair of trichotillomania are firmly anchored to the scalp. When in doubt, it is prudent to do a scalp biopsy for differentiation that shows the characteristic increase in the number of catagen hair, trichomalacia and melanin within the follicular canal along with absence of perifollicular inflammatory infiltrate^{2, 9}. Another histological pointer towards the diagnosis is the "hamburger sign" wherein the vertically oriented hair shaft contains proteinaceous material and erythrocytes.¹⁰ However, the two conditions are known to co exist.¹¹ The disease can be complicated by infections, permanent loss of hair, repetitive stress injury, carpal tunnel syndrome and gastrointestinal obstruction as a result of trichophagia.⁶ The latter results when people with trichotillomania also ingest the hair they pull and in extreme cases this can lead to a hair ball known as trichobezoar.⁷ The treatment of the condition is difficult and requires patience, skill and empathy on the part of the treating dermatologist. We report this case as clinical appearance of the lesions can be deceptive and so proper history with examination becomes mandatory to reach to a right diagnosis and management.

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Single Incision Lift - Laparoscopic Appendicectomy: The Procedure, training And Advantages For Rural Surgeons

Ayodele Awojobi, J. Gnanaraj

Introduction

Appendicectomy is the most common abdominal operation performed on an emergency basis [1]. It is similar in African countries and is carried out for both acute and sub – acute appendicitis. In most places the surgery is carried out under spinal anesthesia using a grid iron incision over the McBurney's point. The laparoscopic technique has many advantages over conventional open surgery especially in women and obese patients [2-4]. A further refinement of the technique is the introduction of Single-incision laparoscopic surgery (SILS). It is a new technique developed for performing operations without a visible scar. SILS may further reduce the trauma of surgery leading to reduced port site complications and postoperative pain. The improved cosmetic result also may lead to improved patient satisfaction with surgery [5]. We describe the procedure of carrying out Single incision Lift laparoscopic surgery for Appendicectomy and how we can train for it. (Figure 1)



Figure 1: Single Incision Lift Laparoscopic surgery in progress

Procedure

Prior the surgery, the patient is catheterized to empty the bladder and a prophylactic dose of antibiotics is given. Single-Incision Lift Laparoscopic Appendectomy is performed by a small umbilical incision under spinal anaesthesia using 5% heavy Marcaine. The patient lies in Trendelenburg position and the right side of the waist is lifted with a sand bag.

The umbilicus is lifted with 2 towel clips at the extremes and an incision of about 3cm diameter is made in the middle, caudally to expose the linea alba. Cauterized dissections are made using the diathermy until the peritoneum is visible. The surgeon uses his hand to feel around for any loop of bowel, adhesions or omentum that may be attached to the anterior abdominal wall.

The ring part of the Lift apparatus designed by Daniel Krunschinski is inserted caudally and again, the surgeon checks if any loop of bowel is caught in between [6]. Thereafter the remaining part of the apparatus is attached. The umbilicus is lifted to about 10 cm to create space for the surgeon to operate. The self-retaining retractor is attached opposite the lift apparatus. The camera is introduced and pointed towards the right iliac fossa. The atraumatic grasper is inserted and used to locate and isolate the appendix. Once it is isolated, the Maryland handler is used to hold it at the tip. The Harmonic machine or the Vessel sealing is then used to cauterize the appendiceal artery and the mesentery. A 2-vicryl suture is used to tie off the appendiceal base and at about 0.5 cm proximal. The laparoscopic pair of scissors is then used to excise the appendix in between the sutures. The Vicryl suture is used for closing the linea alba and either silk or Nylon for skin. Regular cautery machine or ordinary tying could be used if harmonic scalpel is not available.

The Training

The trainer for lift laparoscopic surgeries has been designed to train surgeons and even non - laparoscopic surgeons to acquire basic laparoscopic skills and perform some procedures before attempting it on patients. The 'fingers of the gloves' are used to simulate the appendix

(Figure 2) and tying off the Appendiceal base is practiced with the different methods of making knots using ordinary sewing thread [7].

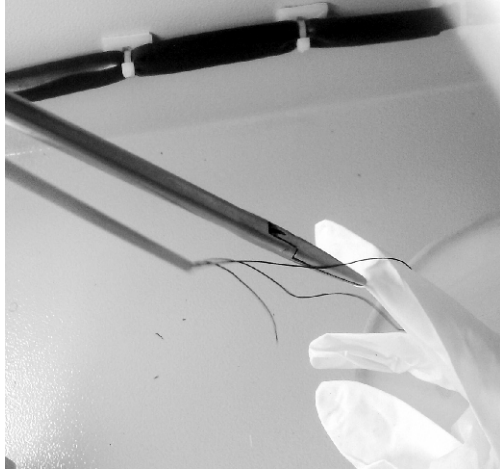


Figure 2: Practicing Appendicectomy in a box

The Advantages

There are several advantages of the procedure. The following are some of them

1. There is no need of gas insufflation to the peritoneum thereby defeating the numerous disadvantages-shoulder pain in the patient, hypothermia, Hypercapnia, etc.,.
2. There is minimal need for post-operative pain medications.
3. The umbilical scar is cosmetically more acceptable to the patient.
4. There is overall cost effectiveness as the instruments used are sturdy and reusable, no need to purchase carbon dioxide or any insufflation gas and no need to buy specialized ports to ensure air-tight pneumoperitoneum.

However above all these the major advantage over regular laparoscopic surgery is that it is possible to do the surgery under spinal anesthesia which is readily available and much less expensive compared to general anesthesia.

Discussion

Single incision minimally invasive appendicectomies have been in vogue for a long time and have been carried out even using a cystoscope [8]. Gasless single incision laparoscopic appendicectomies with incision over the McBurney's point and a lifting device have also been carried out [9]. However, they are not cosmetically as attractive as an umbilical incision and do not offer scope for diagnostic laparoscopy to confirm the diagnosis and rule out other problems. Gasless SILS Appendicectomy is a safe, easy and less expensive procedure that is relevant for rural areas.

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OBSTETRICS & GYNECOLOGY

<http://dx.doi.org/10.1016/j.ajog.2014.4.021>.
Balancing the risk of stillbirth and neonatal death in the early preterm small-for-gestational-age fetus.
Amanda S.Trudell; Methodius G. Tuuli, Alison G. Gahill, George A. Macones, Anthony O. Odibo

Timing of delivery for the early preterm small for gestational age(SGA) fetus remains unknown. Our aim was to estimate the risk of stillbirth in the early preterm SGA fetus compared with the risk of neonatal death.

When a fetus is diagnosed as small for gestational age(SGA) in the early preterm period ,the decision to abandon expectant management and proceed to delivery to avoid stillbirth must be balanced delicately with the risks of prematurity and neonatal death. Although the complications of prematurity weigh heavily on the decision to deliver,only the surviving neonate will experience sequelae of prematurity. Therefore,the first step in the clarification of the optimal timing of delivery is understanding the competing risks of death ,stillbirth,and neonatal death.

We recognize that IUGR is a heterogeneous clinical problem to which we have taken a large –scale epidemiologic approach at comparing the risks of death. We can not offer practice recommendations regarding the optimal gestational age for delivery of the preterm SGA fetus or comment on individual case scenarios that would need to account for fetal biophysical status.Nevertheless, our finding offer a broad perspective into the risks of both expectant management and immediate delivery , which suggests that expectant management of the SGA fetus to at least 32 wks of gestation carries the lowest risk of perinatal death.

The balance between the risks of stillbirth and neonatal death for the preterm SGA fetus occurs in the 24-33wks 6 days.

<http://dx.doi.org/10.1016/j.ajog.2014.03.016>.

Maternal and neonatal outcomes in electively induced low – risk term pregnancies. Author:- *Kelly S. Gibson, Thaddeus P. Waters, Jennifer L. Bailit,.*

Conventional obstetric teaching suggests that an elective induction of labor is associated with increased maternal morbidities. However , publications supporting this teaching have compared induction of labor with spontaneous labor rather than the true clinical alternative of expectant management.

Recent retrospective analysis found no increase in operative delivery with induction of labor and a decrease in the cesarean delivery rate among women delivering in the term period. As national attention has defined >39 wks as the optimal time for delivery for low –risk women, a comprehensive evaluation of the risks and benefits of elective delivery by week is crucial.

Previous investigations have noted a consistent pattern of a reduction in cesarean delivery with induction of labor as early as 37 wks of gestation without a reciprocal increase in neonatal morbidity. Therefore, it is imperative for additional investigations to confirm or refute this observation.We observed a reduction in cesarean section with elective induction regardless of week gestation, parity ,or cervical examination.Several maternal outcomes , including infectious morbidity, obstetrical lacerations and shoulder dystocia , were reduced with induction of labor.Composite neonatal morbidities were reduced with elective induction of labor at 38, 39 and 40wks of gestations.

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