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Original Article

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Port Exteriorization Interval Appendectomy: An Experience with 25 Cases

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Abstract

Laparoscopic appendectomy is conventionally performed using three ports. However, we have adopted this modified two port exteriorization technique by using minimum number of ports as well as disposables and got an excellent result. Hence aiming to document.

Between May 2012 and Dec 2013, fifty laparoscopic appendectomies were performed of which 25 were operated using contemplated technique. Technical challenges, conversion, operative time, complications, post operative recovery and cosmoses were analyzed.

Twenty five (13 females and 12 males) patients with age of 07 years to 67 years underwent port exteriorization interval appendectomy. The operative time was from 10 to 45 minutes. Two cases needed conversion to open appendectomy due to dense adhesions. Post operative pain was less than 25 by visual response score. One (4%) patient developed surgical site infection. Post operative recovery and cosmoses were excellent.

Port exteriorization appendectomy appear simple, safe, economical, and effective if condition favors its performance. However, difficult appendices requires conversion to three port/open procedure.

Keywords: Laparoscopic appendectomy; Out technique; Port exteriorization appendectomy; Two port appendectomy.

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Introduction

Laparoscopic appendectomy is a surgical procedure of common use. There are many techniques of surgery. It is broadly divided in to "in" and "out" types.[1,2,3] The "in" technique involves division of appendicular artery and base intracorporeally using endoloops/clips/staples/sutures, with delivery of appendix through one of the ports.[4,5] This necessitates 3 ports and either use of costly laparoscopic disposables or intracorporeal suturing. The "out" technique involves exteriorization of appendix through a port and performing appendectomy extracorporeally.[1,2,3] Although one port appendectomy appears very attractive, it entails the use of either operating telescope[6] or the use of instruments shoved in along with camera.[7] in both cases a mobile not so inflamed/fixed appendix is mandatory for success. The 3 port "in" technique is most desirable. Paucity of laparoscope, cautery (bipolar) and disposables crates difficulties during surgery. However, with availability of diagnostic laparoscope, a Meryland and a non toothed grasper two port surgery was possible successfully.

Materials and Methods

Between May 2012 and Dec 2013, 25 interval, two port, exteriorization appendectomies were performed after obtaining written informed consents from the

patients and guardians in case of minors.

The operative technique is described in brief. Under GA/SA open umbilical 10 mm port was placed and pneumoperitoneum was achieved up to 8-12 mm of Hg intra abdominal pressure. Patients were placed in Trendelenburg position with 20 degree head down and right side up. Another 10 mm working port was placed at Mc Burney's point and instrument is introduced to keep the gut/ omentum away to visualize appendix if not visualized properly earlier. The external view of ports placement is as in Fig 1. The appendix is isolated, the tip is held and is coaxed into the introducer while simultaneously pushing the introducer and the port right up to its base. Pneumoperitoneum is deflated while pulling out the appendix gently yet firmly. Once deflated, the introducer, along with the port, is slowly slipped away exposing the entire length of the appendix along with the mesoappendix, out side of the abdomen (Fig 2). The rest of the surgery is similar to open appendectomy. On completion of the appendectomy, the appendicular stump is repositioned back into the abdomen by inflating the peritoneum again. Appendix stump and the mesoappendix were visualized again for satisfactory completion of the procedure. Ports were closed after extraction of the instruments and deflation of the abdomen.

Figure 1: External View of the Ports

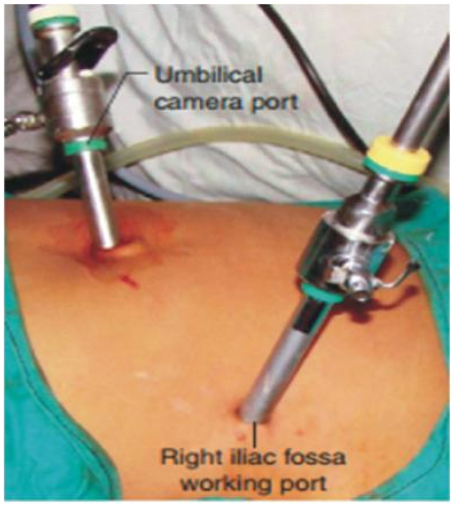


Figure 2: Appendix being Coaxed into the Port

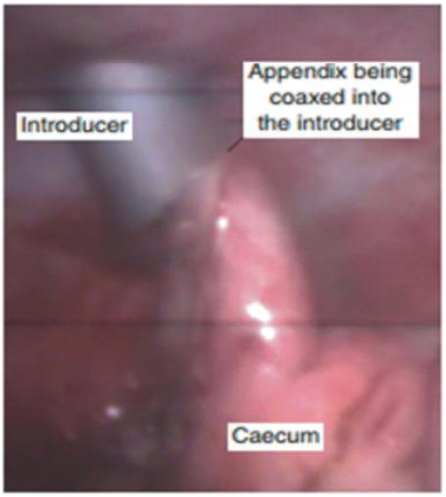
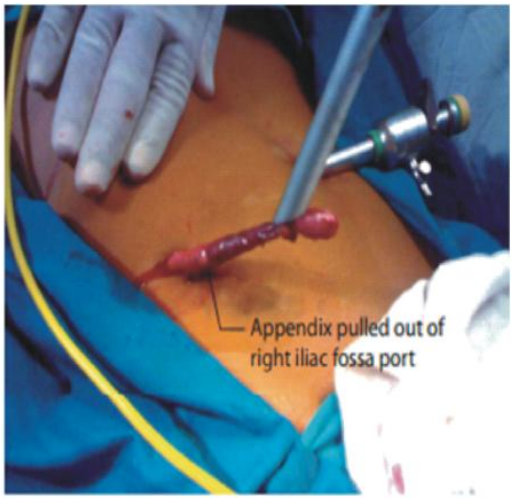


Figure 3. Appendix is Exteriorise



Results

Total ninety patients underwent appendectomy over one and half years. Out of these, 15 underwent open appendectomy, 50 three port laparoscopic and 25 two port exteriorization laparoscopic interval appendectomy.

Out of 25 port exteriorization technique, 13 were females and 12 were males. The age group involved were from 7 years to 67 years. Pediatric patients were three. There were 2 patients of age group 7 and seven & half years and one patient of 9 years old. All patients were operated under General Anesthesia. The operation time was between 10 minutes to 45

minutes.

Three cases needed conversion to open appendectomy which was performed by extending the right iliac fossa port site. This was due to adhesion and lump formation with terminal ileum, caecum and omentum.

One case was having turgid, thick and inflexible appendix. Ligation of the appendicular stump at caecal junction was little difficult. The same patient developed surgical site infection (SSI) subsequently due to E. coli infection. This case HPE report of appendix was in favor of acute appendicitis. In all other cases, chronic inflammatory findings were present on HPE of the appendix.

Post operative recovery in all patients was smooth. Post operative analgesia was required for 24 hrs only. Cosmoses was excellent in all patients except the one who had SSI.

No patient had post operative port hernia during last 2 years of followup.

Discussion

Age

Although no age is exempt, appendicitis is, in general, a disease of late teens/young adults.[1,2,3] In our series, age group involved were from 7 to 67 years with 3 pediatric cases.

Gender

Appendicitis has a slight male predominance.[1,2,3,8] However, we had 13 females and 12 males in our study.

Diagnosis

Despite advances in diagnostic imaging, appendicitis remains a clinical diagnosis commonly using Alvarado's score. Score of more than 6 is credited with diagnosis accuracy of more than 70%.[8] In our series, all cases were interval appendectomy. Hence, there was no confusion. However, we landed up in an acute case resulting in SSI managed effectively by appropriate antibiotics.

Surgical Options

Open appendectomy is the standard time honored treatment for appendicitis and remains the most widely performed procedure, world wide.[3,8] Laparoscopic appendectomy has emerged as a viable treatment option not only because of patients demands for lesser pain and better cosmoses but also because of surgeons diagnostic ambiguity and anatomical variability.[3] In our study, two port technique landed up in open method thrice due to dense adhesions and lump formation because of interval appendectomy.

Choice of Laparoscopic Technique

Although criticized for technical difficulty and cost [5] the three port "in" technique has been widely practiced and remains the gold standard, among techniques of laparoscopic appendectomy due to its significant advantages.[4]

However, less than optimum conditions specially in a busy OT with other team working with laparoscopic equipments, prompted us to look for alternative techniques which combined the best of open and laparoscopy which is in our opinion the port exteriorization technique. This technique performed predominantly using two ports gained popularity initially in pediatrics practice.[9,10]. Latter, this technique is going to be popularized in adult surgery in near future. In our study of total of 25 cases, we had three pediatric cases of appendicitis operated successfully by two port exteriorization technique. Others had good response to same two port exteriorization technique.

Technical Points

Pre Requisites

As with any other surgical technique, port exteriorization using two ports is ideally suited for favoring placed easy to grasp appendix which are either early stage of inflammation or not inflamed (interval appendectomy), without friability, mobile, in patients thin

abdominal wall. Hence, we selected all our patients for interval appendectomy by this innovative two port exteriorization technique. The distinct advantage of this technique is that it proves less invasive than both open and 3 port technique. Gentle yet firm handling of the appendix is all that is required. The other advantage of this technique is that the chance of SSI is definitely as well as significantly less as the selection of cases was for interval appendectomy only. This is new and unique study being interval appendectomy only. We agree that it needs further study for more comments/suggestion.

Turgid Inflamed Appendix

On account of friability, thickness and edema coaxing to trocar is difficult. Enlarging the port site has also been described for the same difficulty.[3] Hence we avoided all cases of acute appendicitis. The attempted procedure was adopted only incases of interval appendectomy.

Adhesions

Adhesions can be broken (divided/ cauterized) by using Maryland, introduced through the working port. Once the appendix is freed, the remainder of the procedure is carried out as described. However, if the adhesions are thick or the appendix is coiled around due to recurrent inflammation or in appendicular lump formation (as in our cases) it becomes difficult for dissection in 2 port method to deliver appendix, resulting in conversion to open appendectomy. We agree our difficulties while mobilizing appendix in interval appendectomy. In this series, it was not possible to dissect out the appendix free in three occasions resulting in conversion to open appendectomy.

Limitations

This technique is less optimally suited for very short fibrosed appendix, especially in obese patients, as it is difficult to pull it up enough to achieve optimal exposure of the base.[1] This may leave a long stump with subsequent risk of stump infection.[1] Gangrenous appendix with friable bases are unsuitable as they rupture during extrication.[2,3] In this series we have excluded all acute appendicitis cases. In our present series, two cases were difficult due to multiple factors mentioned above resulting in open appendectomy. However, three port "in" technique would have a definite advantage over the contemplated technique in such situations.[3] Should one encounter an appendicular mass it is best left alone for a later date interval appendectomy (as our cases) as true dissection such a friable mass needs either an out standing experience in laparoscopic surgery or the tactile feed back provided by finger, as in open surgery.[3] That is the reason, we have not done the contemplated procedure in acute appendicitis as well as in appendicular lumps.

Time

Our operation time ranged between 10 and 45 minutes depending upon the difficulties encountered during surgery. This compares well with the timings both of open procedures as well as that of laparoscopic appendectomy performed using port exteriorization technique by other centers.[2,3,9,11] It is worth to mention here that the time consumed is less than that of standard three port appendectomy.[1,2,4] The result is similar to series by Bharati *et al*.

Economy

A definite economically good procedure as nothing else (no other disposables) are required except a free silk suture.

Conversion

Out of 25 cases attempted by two port technique, 22(88%) could be completed without conversion to other techniques like three port/open appendectomy. This

compares well with the literature of this technique where rate of success ranged from 73% to 100%.[1,2,3,9,11] In a series of 26 cases attempted by two port technique, 22 (84.61%) could be completed without conversion by Bharati *et al* which is similar to our result. It is worth mentioning that conversion and addition of working instruments should be consider good judgment, if required to prevent failure/complications.

Complications

Surgical site infection is a known complication of open appendectomy, which occurs in 5 to 10% of cases.[8] Although a similar incision, the site of exteriorization carries the same risk, but our experience showed one case of SSI out of 25 (4%) who had a inflamed turgid appendix. This series is comparable to many series.[1,2,3,9,11] However, we feel less chance of infection as all cases in our series were Interval appendectomies only. Further work is required to comment on infection in this method of port exteriorization appendectomy.

Caecal perforation, bleeding, pelvic abscess and port site hernias have also been reported following laparoscopic appendectomy, but fortunately none were observed in our patients.[1,2,3,9,11]

Post Operative Pain

Pain following laparoscopic cholecystectomy is multifactorial like visceral and parietal components.[1,2,3] The visceral component predominates following surgery for 24 hrs and parietal component takes over latter.[1,2,3] That is what has happened in our study. However, use of non steroidal anti inflammatory drugs was enough to alleviate pain.

Post Operative Recovery

Commencing orals after 8 hrs of surgery had no complications.[12] We have started oral fluid following 12 hrs after surgery and have good post operative response. The hospital stay was from 3 to 7 days depending on relief of post operative pain and requests of patients to stay in the hospital till removal of stitches. Otherwise most of the patients were discharged on third post operative day.

Cosmoses

Cosmoses is an important criterion especially for young females undergoing surgery. All our patients were cosmetically satisfied and had never any complains following surgery.

Conclusion

In conclusion, port exteriorization interval appendectomy proves simple, safe, economical and effective, when condition favors its performance. However, difficult appendectomies warrant conversion either to three port or open procedure.

Acknowledgement

Able guidance of Dr Sunil Mhaske Prof & HOD Pediatrics and help & cooperation of Anesthetic colleagues while managing three pediatric age group and managing rest of the cases of our series is greatly acknowledged.

References

1. Lt Col R Saranga Bharathi, Lt Col vinay Sharma, Lt Col Arunava Chakladar, Maj Pravin Kumari. Port exteriorization appendectomy – our experience. *MJAFI.* 2011; 67 : 147–151.
2. Adhikary S, Tyagi S, Sapkota G, Afaq A, Bhattarai BK, Agrawal CS. Port exteriorization appendectomy: Is it the future? *Nepal Med Coll J.* 2008: 10: 30–34.
3. Fazili FM, Bouq YA, El Hassan OM, Gaffar HFA. Laparoscope – assisted appendectomy in adults: the two trocar technique. *Ann Saudi Med.* 2006; 26: 100–104.
4. Gilchrist BF, Lobe TE, schropp KP, *et al*. Is there a

role for Laparoscopic appendectomy in pediatric surgery? *J Paediatric Surg*. 1992; 27: 209–214.

5. Merhoff AM, Merhoff GC, Flanklin ME. Laparoscopic versus open appendectomy. *Am J Surg*. 2000; 179: 375–378.
6. Varshney S, Sewkani A, Vyas S *et al*. Single port transumbilical laparoscopic – assisted appendectomy. *Indian J Gastroenterol.* 2007; 26: 192.
7. Hong TH, Kim HL, Lee YS, *et al*. Trans umbilical single port Laparoscopic appendectomy: scarless intracorporeal appendectomy. *J Laparoendosc Adv Surg Tech.* 2009; 19: 75–78.
8. O'Connell PR. The vermiform appendix. In*: Bailey and Love's Short practice of Surgery*, 24th ed, Russels RCG, Williums NS, Bulstrode CJK, eds. London: Arnold; 2004, 1203–1218.
9. Valioulis I, Hameury F, Dahmani L, Levard G. Laparoscope assisted appendectomy in children: the two - trocar technique. *Eur J Paediatric Surg*. 2001; 11: 391–394.
10. Alessio AD, Piro E, Tadini B, Beretta F. one trocar transumbilical laparoscopic assisted appendectomy in children: Our experience. *Eur J paediatr Surg*. 2002; 12: 24–27.
11. El Gohary MA, Marasafawy ML. Port exteriorization appendectomy: a preliminary report. *Pediatric Surg Int.* 2001; 17: 39–41.
12. Reissman P, Teoh TA, Cohen SM, Weiss EG, Nogueras JJ, wexner SD. Is early oral feeding safe after elective colorectal surgery? A prospective randomized trial. *Ann Surg*. 1995; 222: 73–77.

Case Report

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A Rare Presentation of Congenital Inguinal Hernia with Umbilical Hernia in Twins

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Abstract

Background**:** Although congenital anomalies are higher in twins than in singletons but the incidence of congenital indirect inguinal hernia with umbilical hernia in twins on the same side is extremely rare condition and is unusual.

Although it is accepted as developmental anomaly, genetic factors cannot be excluded due to probability of existence in siblings.

Case Report**:** One year old Monozygotic identical twins presented with swelling on the left side of the groin and swelling in the umbilical region since birth. Birth history –full term normal vaginal delivery. Left groin swelling was non tender, and used to increase when the child cried, extended from groin up to base of scrotum and was reducible in both the twins.

Umbilical swelling was non tender, and used to increase when the child cried & was reducible in both.

Conclusion**:** Inguinal hernia in twins are extremely rare, as there are only a few cases on record. Little is known about its etiology, and prevalence, owing to the difficulties in tracing the twins with hernia. It needs extensive further study involving a wider study group and inclusion of genetic factors to find out prevelance & cause.

Keywords: Congenital Inguinal Hernia, Genetic Factors, Identical Twins

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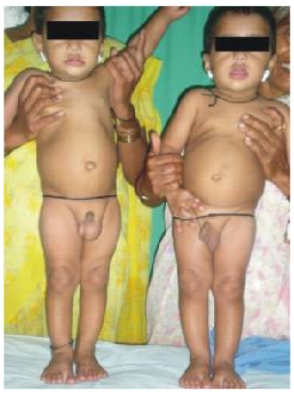
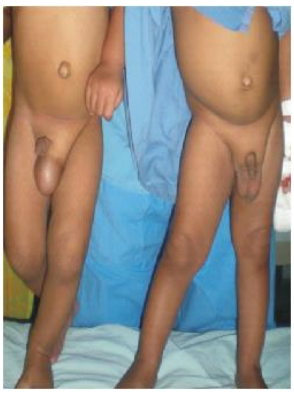
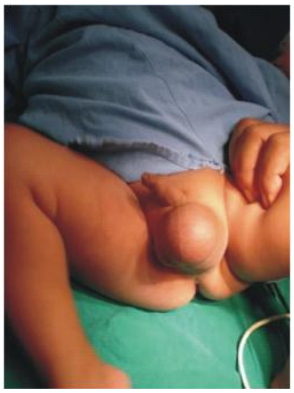
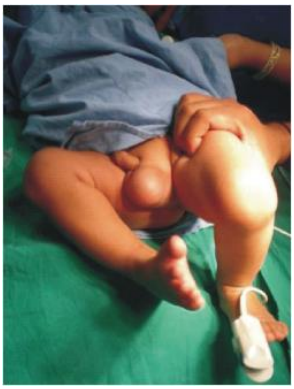
Introduction

- Although congenital anomalies are higher in twins than in singletons but the incidence of congenital indirect inguinal hernia with umbilical hernia in twins on the same side is extremely rare condition and is unusual.[1]
- Although congenital inguinal hernia is one of the commonest surgeries performed in infancy and early childhood the literature on its etiology and incidence is scanty due to the difficulties entailed in optaining a large unbiased population group for study.[2]
- Although it is accepted as developmental anomaly, genetic factors cannot be excluded due to probability of existence in siblings.

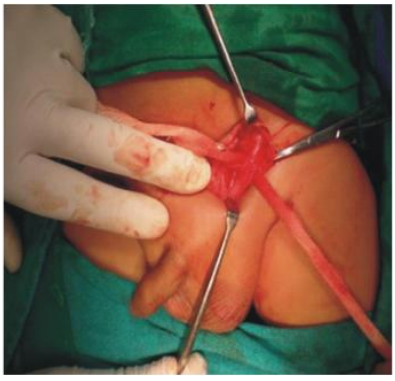
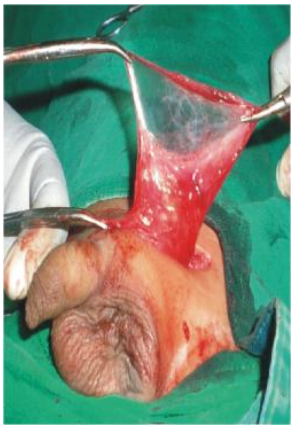
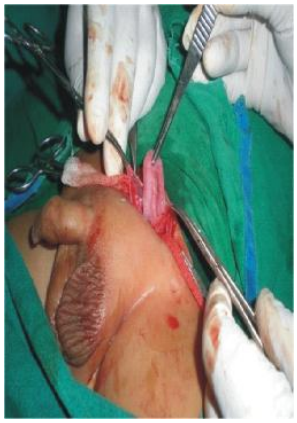
Embryology[3]

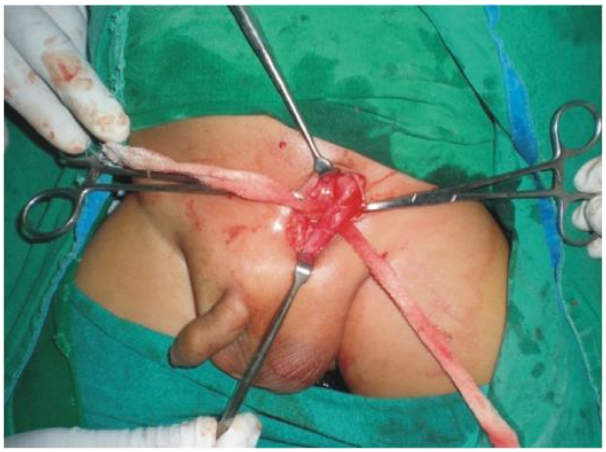
- The occurrence of a congenital inguinal hernia is related to descent of the testis into the scrotum.
- The testis starts developing in the abdomen and eventually descends into the scrotum.
- As the testes descends into the scrotum a membrane surrounding all the abdominal contents gets pulled into the scrotum with the testes. This is called the processus vaginalis.
- The testes usually reaches the scrotum by

Preoperative Photographs

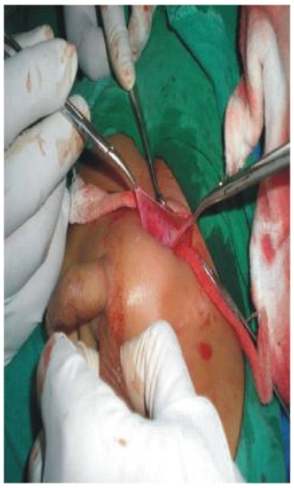
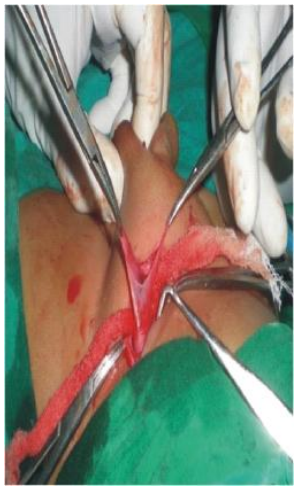





Intra Operative Photo 1st Twin



Intra Operative Photographs 2nd Twin

the third trimester.

- In approximately 90% of children, the processus vaginalis seals shut and becomes a thin band of tissue without an opening.
- If all or any portion of the processus remains open it may cause either a congenital inguinal hernia or a hydrocele.
- In females, hernias are less common but inguinal hernia and, more rarely, a hydrocele may occur.

Case Report

- One year old Monozygotic identical twins presented with swelling on the left side of the groin and swelling in the umbilical region since birth.
- Birth history –full term normal vaginal

delivery.

- Left groin swelling was non tender, and used to increase when the child cried, extended from groin up to base of scrotum and was reducible in both the twins.
- Umbilical swelling was non tender, and used to increase when the child cried & was reducible in both.

Discussion

- Although inguinal hernia has been previously diagnosed in twins, as well as in relatives of patients with hernias, a genetic basis for the condition has not been established yet.
- In a study including 266 twin babies the incidence of hernia is less than 1%.[4]
- So far since a very scanty number of case of bilateral inguinal hernia in male twins, has been reported. The literature cites only two such other case of inguinal hernia in twins.[1]

Conclusion

- Inguinal hernia in twins are extremely rare, as there are only a few cases on record.
- Little is known about its etiology,and prevalence, owing to the difficulties in tracing the twins with hernia.[2]

  It needs extensive further study involving a wider study group and inclusion of genetic factors to find out prevelance & cause.[4]
- This case report has been prepared not because of any radical surgery or new techniques of surgery but due to the very rare occurrence of congenital inguinal hernia in twin males on the same side at the same age.

References

1. Kellett CE. Inguinal Hernia In Female Twins: With Special Reference To The Identification Of Monozygotism. *Arch Dis Child.* 1939; 14: 265-270.
2. TG Powell, JA Hallows, RWI Cooke and POD Pharoah. Why Do So Many Small Infants Develop An Inguinal Hernia? *Archives Of Disease In Childhood.* 1986; 61: 991-95.
3. Priyanka Gupta, MMA Faridi and Geeta Dev. Congenital Malformations In Twins: Effect Of Chorionicity And Zygosity. *Indian Pediatrics.* 2010; 46: 343-4.
4. Lanna Cheuck, Christopher S Atalla, Thomas R Gest (ed). Inguinal Region Anatomy. New York: Lippincott Williams & Wilkins Royalty; 2013. http://emedicine.medscape.com/article/2075362-overview (date of access 15/03/2012).

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Case Report

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Kikuchi Fujimoto Disease: A Rare Case Report

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Abstract

Introduction: Kikuchi-Fujimoto disease (histiocytic necrotizing lymphadenitis) is a rare, benign, self limiting syndrome characterized by tender regional lymphadenopathy, fever and night sweats. Highest prevalence is seen among Japaneese population. **Case Report:** We report a case of a young male presenting with fever with chills and tender cervical lympadenopathy not responding to the traditional treatment. A fine needle aspiration cytology of the lymph node was done, which was inconclusive. An excision biopsy showed features suggestive of Kikuchi Fujimoto's disease. Patient was started on low dose steroids with anti inflammatory drugs. Patient became symptom free within a week and has no recurrence in 6 months of follow up. **Discussion:** Kikuchi disease is mainly a diagnosis of exclusion. It is self-limited, and lasts 1 to 4 months with a low, but possible, recurrence rate of 3% to 4%. Only 3 fatal cases have been reported, occurring in the active phase of probably genuine disease. It has no specific treatment. Only symptomatic treatment measures to relieve local and systemic complaints should be used. Patients with a more severe clinical course or with relapsing signs and symptoms could benefit temporarily from corticosteroids. **Conclusion:** Kikuchi Fujimnoto disease is rare and a self limited disease, diagnosis of which is based on histopathological findings. It should be suspected in all the cases of unexplained fever and tender lymphadenopathy thus avoiding cumbersome investigations. It usually responds to symptomatic treatment and in unresponsive patients, low dose steroids for 10 days helps to prevent relapse and recurrence, as in our case.

Keywords: Kikuchi Fujimoto disease; Histiocytic necrotising lymphadenitis; Pyrexia; Lymphadenopathy; Corticosteroids.

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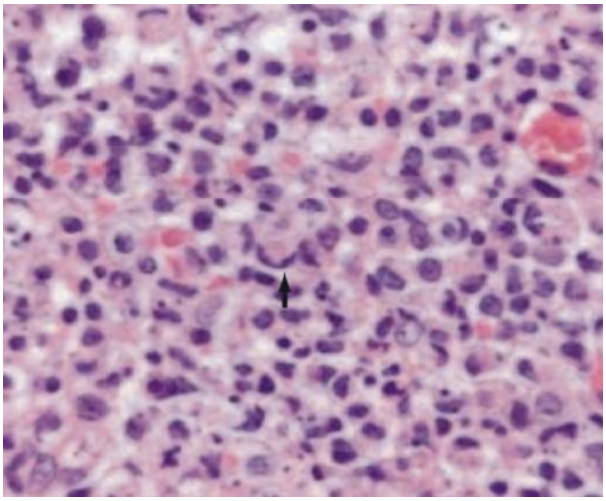
Introduction

Kikuchi-Fujimoto disease (KFD; so-called histiocytic necrotizing lymphadenitis) is an enigmatic, benign, and self limited syndrome characterized by regional lymphadenopathy with tenderness, usually accompanied by mild fever and night sweats.[1] It is a , benign, and self-limited syndrome. It is first reported almost simultaneously by Kikuchi and by Fujimoto and associates in 1972 as a lymphadenitis with focal proliferation of reticular cells accompanied by numerous histiocytes and extensive nuclear debris.[2] Disease has worldwide distribution with a higher prevalence among Japanese and other Asiatic people.[3,4] Most often seen in adults younger than 40 years. A female preponderance has been reported (female/male ratio, 4:1).[5,6] Recent reports from Eastern countries seem

Fig 1: Karyorrhectic Foci with Large Numbers of Histiocytes, Including Crescentic Histiocytes (Arrow), and Some Lymphoid Cells



to indicate that the female preponderance was overemphasized in the past and that the actual ratio is closer to 1:1. [5]

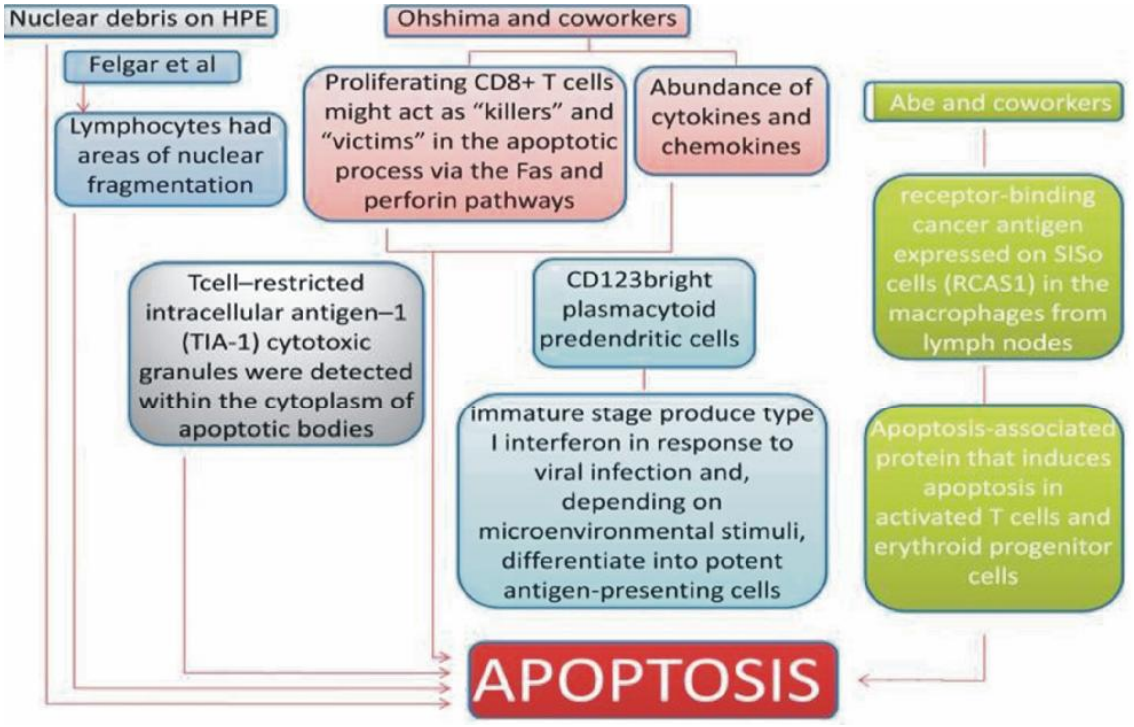
Case Report

A 35 yrs old male presented with complaints of fever with chills since 3 weeks. Fever is insidious onset, high grade, intermittent, with chills, reduced on medication, no diurnal variation. No other co relating history. On examination, axillary temperature was 103 ^{o}F. A single 2x2 cms, lymph node present in the right side of neck in the posterior triangle, firm in consistency, surface smooth. No signs of inflammation. Systemic and ENT examination is within normal limits. All the relavant laboratory investigations and infective parameters are within normal limits. Chest X-ray is normal. Patient was started on antibiotic and anti inflammatory and anti pyretic medications. No improvement was noted after 1 week. Hence, a FNAC of the lymph node was done. The aspirate was hemorrhagic and cytology showed hemorrhagic cells with clusters of polymorphic lymphoid cells comprising of centrocytes, centroblast, along with histiocytes and an ill defined granuloma. No caseating necrosis. An impression of Reactive lymphadenitis was given. An excision biopsy (Fig 1) of the cervical lymph node was done, which showed paracortical areas of expansion with karryorhectic debris. Focal areas show reactive follicles and is negative for granuloma or malignancy. A final diagnosis of Kikuchi Fujimotos disease was made. Patient was started on low dose prednisolone along with anti inflammatory drugs. Patient responded well and became symptom free in a week. Patient is on regular follow up for the last 6 months without any recurrence.

Discussion

The etiology is unknown. Viral or autoimmune cause is speculated. A viral infection is, nevertheless, possible by virtue of clinical manifestations, as described by Unger and colleagues.[7] Upper respiratory prodrome, atypical lymphocytosis, and lack of response to antibiotic therapy, and certain histopathologic features i.e. proliferation of immunoblasts, presence of necrotic zones localized to T-cell areas, expansion of the paracortex, and predominance of T cells. Histologic, ultrastructural, and immunohistochemical findings might support a hyperimmune reaction, perhaps to several organisms. It is possible that KFD might represent an exuberant T cell–mediated immune response in genetically susceptible people to a variety of nonspecific stimuli. DPA1*01 and DPB1*0202 alleles is significantly higher.[1] Electron microscopic studies have identified tubular reticular structures in the cytoplasm of stimulated lymphocytes and histiocytes.[2] The association between KFD and SLE has been reported with a frequency probably greater than that expected by chance. Imamura and coworkers hypothesized that KFD might reflect a self limited SLE-like autoimmune condition induced by virus infected transformed lymphocytes.[1] Some physicochemical factors have been pointed out anecdotally as triggers that might lead to KFD. A case of previous pacemaker implantation and simultaneous occurrence of KFD and

Fig 2: Mechanism of Cell Death



silicone lymphadenopathy in a patient with silicone implants have been reported.[1] The mechanism of cell death is characterized by apoptosis (Fig 2). The predominant proliferating cell in KFD lymph nodes is the CD8+ T lymphocyte. The onset is acute or sub acute, evolving over a period of 2-3 weeks. Cervical lymphadenopathy is seen in 56% to 98% of cases, tender lymph nodes involving the posterior cervical triangle (88.5%), unilateral (88.5%). The size ranges from 0.5 to 4 cm (93.4%), and occasionally, are larger than 6 cm. Generalized lymphadenopathy has been reported in 1% to 22%. Involvement of mediastinal, peritoneal, and retroperitoneal region is uncommon.[1,2] 30% to 50% might have fever, usually low-grade, associated with upper respiratory symptoms. Less frequent symptoms include weight loss, nausea, vomiting, sore throat, and night sweats. [1,2,11,12] All the lab investigations are usually normal. Mild leukopenia is seen in 25% to 58%, whereas leukocytosis in 2% to 5% of cases. 25% to 31% have atypical peripheral blood lymphocytes. Number of granulocyte precursor cells (colony forming units in culture [CFU-C]) in the bone marrow was found to be decreased.[1,2,5,6,13,14] KFD is diagnosed on the basis of an excisional biopsy of affected lymph nodes.[1] By using CT and magnetic resonance imaging, Miller and Perez-Jaffe found a distinctive lymphadenopathy pattern in patients with KFD consisting of many small clustered lymph nodes.[8] Patients with typical clinical features and characteristic cytologic findings in lymph node aspirates, FNAC alone would suffice for diagnosing KFD.[9] The overall diagnostic accuracy of FNAC for KFD has been estimated at 56.3%. [10] The characteristic histopathological findings are irregular paracortical areas of coagulative necrosis with abundant karyorrhectic debris, which can distort the nodal architecture. Large numbers of different types of histiocytes at the margin of the necrotic areas. Thrombosed vessels usually are seen around the areas of necrosis. The karyorrhectic foci are formed by different cellular types, predominantly histiocytes and plasmacytoid monocytes.[1] Neutrophils characteristically are absent, and plasma cells are absent or scarce. Histiocytes and plasmacytoid monocytes make the most distinctive cell types found within the

karyorrhectic foci.[4] Earliest recognizable foci and minimum diagnostic criterion of KFD are paracortical clusters of plasmacytoid monocytes with interspersed karyorrhexis and crescentic histiocytes. Reactive lymphoid follicles are present in 50% to 60%.[4-6] Kuo proposed classification of the histopathologic features of KFD into 3 evolving histologic stages: Proliferative, Necrotizing (most common), Xanthomatous.[5] The proliferative stage consists basically of various histiocytes, plasmacytoid monocytes, and a variable number of lymphoid cells with karyorrhectic nuclear fragments and eosinophilic apoptosis debris. If cellular aggregates in a given lymph node showed any degree of coagulative necrosis, the case was classified as necrotizing. If foamy histiocytes predominated in the lesions, the case was classified as xanthomatous regardless of the presence or absence of necrosis. Histologic types might represent different stages of the disease or might reflect differences in cause or host reaction.[5] The immunophenotype typically consists of a predominance of T cells, with very few B cells. The histiocytes express histiocyte associated antigens such as lysozyme, myeloperoxidase (MPO), and CD68. CD4 and CD74 and are positively stained by the pan-macrophage monoclonal antibody Kim1P.[1] Kikuchi disease should be included in the differential diagnosis of lymph node enlargement since its course and treatment differ dramatically from those of lymphoma, tuberculosis and systemic lupus erythematosus. The histological differential diagnosis include reactive lesions as lymphadenitis associated with systemic lupus or herpes simplex, non-hodgkins lymphoma, plasmacytoid T-cell leukemia, Kawasakis disease, myeloid tumor and even metastatic adenocarcinoma.[1] Kikuchi disease is self-limited, and lasts 1 to 4 months. A low, but possible, recurrence rate of 3% to 4%. Only 3 fatal cases have been reported, occurring in the active phase of probably "genuine" kikuchi disease. No specific treatment. Only symptomatic treatment measures to relieve distressing local and systemic complaints should be used. Patients with a more severe clinical course or with relapsing signs and symptoms could benefit temporarily from corticosteroids. Takada and co-workers recently reported a case of kikuchi disease that dramatically resolved with oral minocycline treatment. Lin DY *et al*, reported a case of a 15 year old girl which severe kikuchi disease, whose relapsing course was only responsive to high-dose steroids and intravenous immunoglobulin therapy.[15] Katsunobu Yoshioka *et al* reported the use of methyl prednisolone pulse therapy (MPT) (0.5 g/day for 3 days) without maintenance therapy in 12 cases and experienced dramatic improvement.[16} All patients became afebrile within 1 day without adverse events. Four patients relapsed after the initial MPT, but only 1 patient relapsed during the following year.

Conclusion

Kikuchi Fujimnoto disease is rare and a self limited disease, diagnosis of which is based on histopathological findings. It should be suspected in all the cases of unexplained fever and tender lymphadenopathy thus avoiding cumbersome investigations. It usually responds to symptomatic treatment and in unresponsive patients, low dose steroids for 10 days helps to prevent relapse and recurrence, as in our case.

Consent

Written informed consent was obtained from the patient for publication of this case report and case series and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of Interest

No

References

1. Xavier Bosch, MD, Antonio Guilabert, MD, Rosa Miquel, MD, and Elias Campo, MD. Enigmatic Kikuchi-Fujimoto Disease A Comprehensive Review. *Am J Clin Pathol*.2004; 122: 141-152.
2. Dorfman RF. Histiocytic necrotizing lymphadenitis of Kikuchi and Fujimoto [editorial]. *Arch Pathol Lab Med*.1987; 111: 1026-1029.
3. Turner RR, Martin J, Dorfman RF. Necrotizing lymphadenitis: a study of 30 cases. *Am J Surg Pathol*. 1983; 7: 115-123.
4. Tsang WYW, Chan JKC, Ng CS. Kikuchi's lymphadenitis: a morphologic analysis of 75 cases with special reference to unusual features. *Am J Surg Pathol*. 1994; 18: 219-231.
5. Kuo T. Kikuchi's disease (histiocytic necrotizing lymphadenitis): a clinicopathologic study of 79 cases with an analysis of histologic subtypes, immunohistology, and DNA ploidy. *Am J Surg Pathol*. 1995; 19: 798-809.
6. Case Records of the Massachusetts General Hospital (Case 5-1997). *N Engl J Med*. 1997; 336: 492-499.
7. Unger PD, Rappaport KM, Strauchen JA. Necrotizing lymphadenitis (Kikuchi's disease): report of four cases of an unusual pseudo-lymphomatous lesion and immunologic marker studies. *Arch Pathol Lab Med*. 1987; 111: 1031-1034.
8. Miller WT Jr, Perez-Jaffe LA. Cross-sectional imaging of Kikuchi disease. *J Comput Assist Tomogr*. 1999; 23: 548-551.
9. Viguer JM, Jimenez-Heffernan JA, Perez P, *et al*. Fine-needle aspiration cytology of Kikuchi's lymphadenitis: a report of ten cases. *Diagn Cytopathol*. 2001; 25: 220-224.
10. Tong TR, Chan OW, Lee KC. Diagnosing Kikuchi disease on fine needle aspiration biopsy: a retrospective study of 44 cases diagnosed by cytology and 8 by histopathology. *Acta Cytol*. 2001; 45: 953-957.
11. Case Records of the Massachusetts General Hospital (Case 5-1997). *N Engl J Med*. 1997; 336: 492-499.
12. Yen A, Fearneyhough P, Raimer SS, *et al*. EBV-associated Kikuchi's histiocytic necrotizing lymphadenitis with cutaneous manifestations. *J Am Acad Dermatol*. 1997; 36: 342-346.
13. Dorfman RF, Berry GJ. Kikuchi's histiocytic necrotizing lymphadenitis: an analysis of 108 cases with emphasis on differential diagnosis. *Semin Diagn Pathol*. 1988; 5: 329-345.
14. Lin HC, Su CY, Huang CC, *et al*. Kikuchi's disease: a review and analysis of 61 cases. *Otolaryngol Head Neck Surg*. 2003; 128: 650-653.
15. Lin D Y, Villegas M S, Tan P L, Wang S, Shek L P. Severe Kikuchi's disease responsive to immune modulation. *Singapore Med J*. 2010; 51(1): e18.
16. Katsunobu Yoshioka, Tomoko Miyashita, Tomoyuki Nakamura, Takeshi Inoue and Keiko Yamagami. Treatment of Histiocytic Necrotizing Lymphadenitis (Kikuchi's Disease) with Prolonged Fever by a Single Course of Methylprednisolone Pulse Therapy without Maintenance Therapy: Experience with 13 Cases. *Inter Med*. 2010; 49: 2267-2270.

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Transiliac Hernia

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Abstract

Transiliac hernia is a rare complication of autologus bone graft harvest from iliac crest. This new term is used to describe herniation of abdominal contents through the bony defect of iliac crest. A rare case that was managed successfully is reported here and literature on the subject is reviewed.

Keywords: Bone graft; Iliac crest; Hernia; Hernioplasty.

Introduction

Transiliac hernia is a relatively new term used to describe herniation of abdominal contents through the defect resulted by autologus bone graft harvest. Autologus bone graft is used in various reconstruction procedures of bony defect. Iliac crest is preferred site due to easy accessibility and quality of cancellous graft. Reported complications are few and they include hematoma, wound infection, persistent pain, and nerve injury. Hernia through the defect of iliac crest is known but rare complication. This complication was 1st time reported in 1945 by Oldfield.

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56 years old, obese, diabetic female who presented with irreducible Transiliac hernia is reported here and literature on the subject is reviewed.

Case Report

56 years old female, known diabetic presented with progressive swelling in Rt. flank posteriorly from 1 year (Fig 1). From last 2 months patient had intermittent pain, nausea and constipation. Patient was operated for fracture shaft femur R 2 years before, IMN was done, after 9 months she was re-operated and bone grafting was done

Local examination revealed 20 cms×15 cms obliquely placed oval swelling over R iliac crest under a scar. Visible peristalsis, impulse on

Figure 1

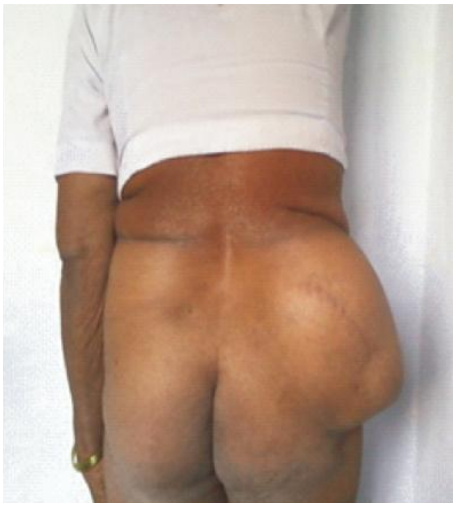
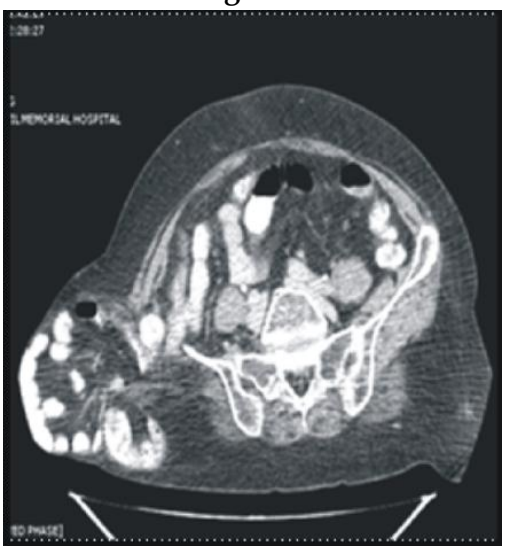


Figure 2



cough, defect with bony irregular inferior margin, partial reducibility and audible intestinal sounds were additional findings. Other systemic examination was normal. Routine investigations were normal. C.T. scan confirmed the defect in iliac crest with herniated bowel loops and omentum (Fig 2). Patient was operated under spinal anesthesia. Hernia sac contents were ileum, appendix, caecum, and omentum (Fig 3). Appendectomy was done. Prolene mesh hernioplasty sub lay technique was used to repair the defect.

Patient had uneventful recovery. Follow up was done regularly up to one year, no complication was noticed (Fig 4).

Figure 3

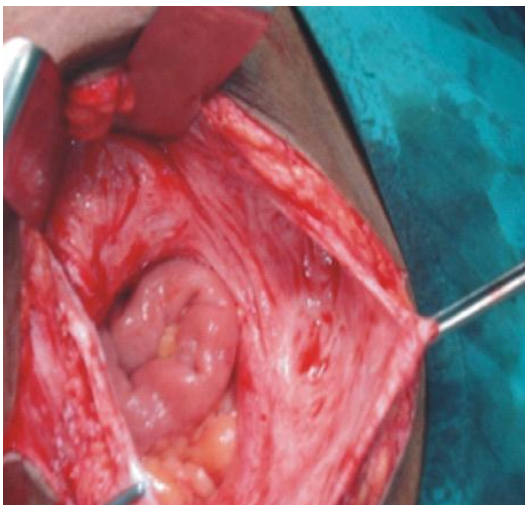
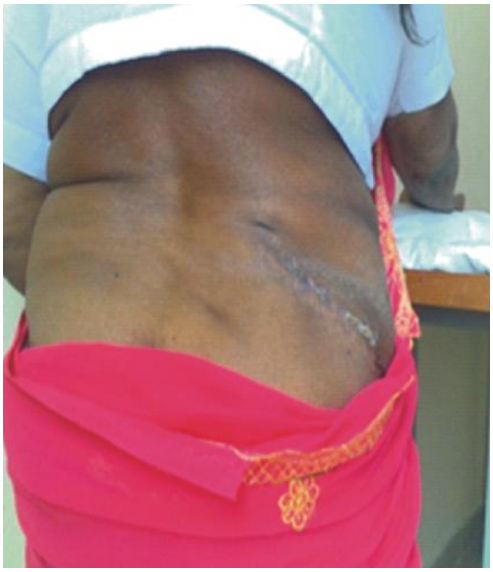


Figure 4



Discussion

Transiliac hernia, the term, was used for 1st time to describe incisional hernia occurring through the bony defect in iliac crest.[1] Autologus bone graft is needed in regenerative & reconstructive bone surgery. The preferred site to harvest bone graft is iliac crest due to easy accessibility, availability of both cortical & cancellous graft, aesthetically pleases the patient as resultant scar is concealed. The complications of this procedure are few and include post operative hematoma, wound infection, persistent local pain and rarely hernia.[2]

Hernia through the bony defect of iliac crest following bone graft harvest was for 1st time reported in 1945 by Oldfield in a series of 59 patients.[3] The exact incidence of this complication is not known. In 1968 Reid in a case report has mentioned that only 7 cases were reported in past fifty years showing the rarity of condition. [4] In another large series of 414 cases it was reported in 2 cases (0.5%). [5] Most of available reports are in the form of individual reports. One of the recent reports mentions the incidence of 5% to 9%.[6]

The patients at risk of development of transiliac hernia are the elderly, the obese, and those with poor musculature. Full thickness

graft of the iliac crest has higher chance of developing the hernia than partial thickness graft.[7,8]

Transiliac hernia has been reported by patients as local swelling and pain as early as 24 days. But in some reports have mentioned after few years, in one of the report after 30 years.[1,6,7,8] In early presentation the swelling is often misdiagnosed as post operative hematoma or soft tissue swelling.[7,8] In routine course the swelling increases in size, local discomfort, abdominal pain and change in bowel habits appear.[4,5,7]

Reducible swelling, with positive cough impulse, visible/audible peristalsis, and palpable defect in iliac crest are the diagnostic clinical signs. Occasionally patients present with features of intestinal obstruction, strangulation.[9]

Transiliac hernia sac contents are coils of small intestine, omentum, caecum, & colon. The unique case where liver was herniated through iliac defect is reported.[10] In our case caecum, appendix, and coils of ileum were present.

Plain x-ray shows bone defect, and bowel loops shadows outside the wing of ileum. Ultrasound scan helps to know size of defect and contents of sac. C.T. Scan is commonly used to confirm the diagnosis as it delineates the defect in iliac crest, shows the contents of hernia sac. Also distorted fascial planes due to previous surgery are evident. Post operative C.T. Scan is advised to assess the adequacy of hernioplasty and early recurrence.[6,8,10]

Elective surgical repair is advised for transiliac hernia as it is at a risk of developing complications incarceration 25%, and strangulation 10%.[6] The principles of management are the same as any other hernia i.e. reduction of contents, excision of hernia sac, and repair of defect. The earlier reports described advancement of various tissues, fascial flaps, and tissue flaps for obliteration of defect.[4] Bosworth advised removal of bone on either side of defect and transplanting the anterior portion including ASI to inferior position.[11] Present technique of repair recommends reinforcement by synthetic mesh like polypropylene mesh.[9,10,12,13] Use of trans osseous sutures to close the defect is recommended as it may avoid recurrence of hernia.[10] Hernioplasty by using laparoscopic technique has been reported recently. Better intra operative visualization, significantly reduced post op. pain, morbidity and hospital stay are distinct advantages of this technique. [14]

This complication can be prevented by avoiding full thickness bone graft from iliac crest and limiting to partial thickness graft either from inner or outer table. Harvesting should be performed posterior portion avoiding the anterior and middle portion of iliac crest. [8, 10] After full thickness bone graft harvest accurate apposition and suturing of the periosteum and muscular origins is mandatory to prevent hernia. In primary surgery prophylactic use of polypropylene mesh is advised if the resultant defect in iliac crest is larger than 4sq.cms.[8] Use of freeze dried allogenic bone graft FDA replacing autologus bone graft is advised in high risk patients to avoid donor site complications like hernia through iliac crest donor site.[7,8]

Conclusion

We have reported a case of rare type of incisional hernia through the defect of iliac crest resulted from bone graft harvest. The case was successfully managed by polypropylene mesh hernioplasty. The literature on the topic was reviewed. Various aspects in relation of incidence, causes, risk factors, clinical features, investigations, older and present techniques of management and preventive measures to avoid this complication were discussed.

References

1. François Radais, M.D.Olivier Facy, M.D.Pablo Ortega-Deballon, M.D., Ph.D. Transiliac hernia. *The American Journal of Surgery.* 2011; 201(6): e41-e42.

2. Jennifer Kargel BS, Vanessa Dimas BS, Wayne Tanaka DDS, O Bailey Robertson DDS, J Michael M Coy DDS, Jack Gotcher DMD PhD, and Peter Chang MD DMD. Femoral nerve palsy as a complication of anterior iliac crest bone harvest: Report of two cases and review of the literature. *Can J Plast Surg*. 2006; 14(4): 239–242.
3. Oldfield MD. Iliac hernia after bone grafting. *Lancet*.1945; 245: 810-2.
4. Robert L Reid. Hernia through an Iliac Bone-Graft Donor Site a case report. *J Bone Joint Surg Am*. 1968; 50(4): 757-760.
5. Ketan C Pande, Sonali K Pande, Sudhir Tomey. Hernia through iliac crest defect post bone graft harvesting: a rare complication. *Brunei Int Med J*. 2013; 9(2): 114-1176. Michael V Do, MD and William S Richardson, MD. Lumbar Incisional Hernia Repair After Iliac Crest Bone Graft 5.5.5.5. Femoral nerve palsy as a complication of anterior iliac crest bone harvest: Report of two cases and review of the literatu. *The Ochsner Journal*. 2012; 12(1): 80-81. Femoral nerve palsy as a complication of anterior iliac crest bone harvest: Report of two cases and review of the literature.
7. MM Hamad, SA Majeed. Incisional hernia through iliac crest defects. *Archives of Orthopaedic and Trauma Surgery*. 1989; 108(6): 383-385
8. Vamsi R Velchuru, FRCS, Sandesh G Satish, MRCS, G John Petri, MD, and Hugh G Sturzaker, FRCS. Hernia through an Iliac Crest Bone Graft Site Report of a Case and Review of the Literature. *Bulletin of the Hospital for Joint Diseases*. 2006; 63(3 & 4).
9. Challis JH, Lyttle JA, Stuart AE. Strangulated lumbar hernia and volvulus following removal of iliac crest bone graft. *Acta Orthop Scand*. 1975; 46(2): 230-3.
10. T Nodarian, E Sariali, F Khiami, H Pascal-Mousselard, Y Catonné. Iliac crest bone graft harvesting complications: A case of liver herniation. *Orthopaedics & Traumatology: Surgery & Research*. 2010; 96: 593—596.
11. Bosworth DM. Repair of hernia through Iliac crest Defects. *J Bone and Joint Surgery*. 1955; 37-A: 1069-1073.
12. Auleda J, Bianchi A, Tibau R, Rodriguez-Cano O. Hernia through iliac crest defects. *Int Orthop*. 1995; 19: 367-9.
13. R Kaushik, AK Attri. Incisional hernia from iliac bone grafting site – a report of two cases. *Hernia*. 2013; 7(4): 227-228.
14. BM Yurcisin, CJ Myers, KR Stahlfeld, JR Means. Laparoscopic hernia repair following iliac crest harvest. *Hernia (Impact Factor: 1.69)*. 14(1): 93-6.

Case Report

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Kimura's Disease: A Rare Cause of Supratrochlear Lymphadenopathy

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Abstract

Kimura's Disease is a rare chronic benign lymphoproliferative disorder with varied presentation. It usually presents as subcutaneous swellings and lymphadenopathy in head and neck region.[1] Various other sites like orbits, mediastinum and retroperitoneum have also been reported. [2] Here we present a case of a 35-year old male with supratrochlear lymphadenopathy, which on histopathological examination revealed the diagnosis of Kimura's disease.

Keywords: Chronic benign lymphoproliferative disorder; Lymphadenopathy; Retroperitoneum.

Introduction

Kimura's Disease is a rare chronic benign lymphoproliferative disorder. It commonly presents as subcutaneous swellings and lymphadenopathy in the head and neck region. About 200 cases have been reported worldwide.[3] It is predominantly seen in males of Asian descent.[3] The disease process is usually slow and benign; however it can lead to grave complications like thromboangitis obliterans[4], nephrotic syndrome and subsequent renal failure.[5] Recurrence is also common.[6] Hence detailed evaluation and intensive treatment is essential after initial diagnosis.

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Case Report

A 35 year old male presented to us in the outpatient department with multiple swellings over his limbs and abdominal wall since past two months. The chief complaint was regarding a swelling in the left supratrochlear region, about 4*3 cm in size, which would cause him a dragging sensation while performing daily activities. The swelling was initially peanut sized and it was progressively increasing in size. It was not associated with any tingling numbness or weakness in the left arm. No complaints of fever or rash. The swelling was firm in consistency, nontender, smooth surface and not attached to skin or underlying muscle, mobile in all directions.

Investigations of the patient revealed eosinophilia (18%). Rest of the patients haematological and biochemical parameters were within normal limits.

Excision biopsy of the swelling was done. The supratrochlear lymph node was found to be in relation with the ulnar nerve.

Histopathological report of the lymph node revealed the tissue being composed of marked lymphoid hyperplasia with no evident vascular changes. The lymphocytes were predominantly inactive and admixed with numerous eosinophils especially in the

Figure 1: Showed Vascularendothelial Proliferation (Arrows) and Eosinophils (b, Showing Extensive Fibrosis 400x) (a, H&E Staining 400x)

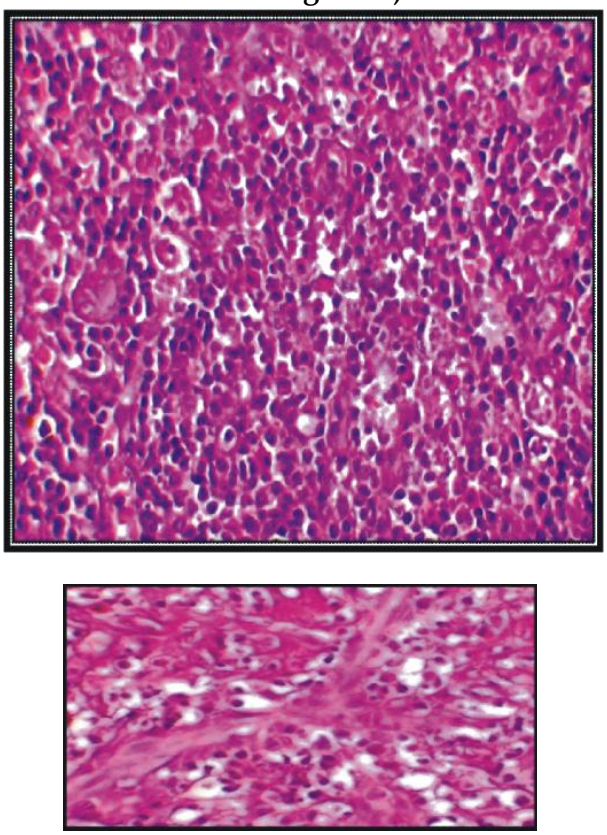
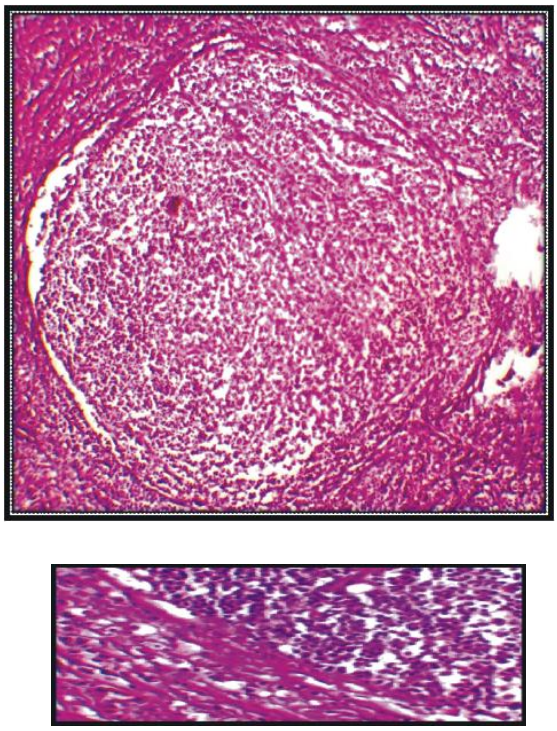


Figure 2: Showed Lymphoid Follicle and Eosinophils (b, x 400) (a, H&E Staining x 100)



periphery. Focal collections of eosinphilic material were noted with a single giant cell resulting in the diagnosis of Kimura's disease.

The patient was discharged and subsequently called for suture removal. He has been asked to keep a regular follow up, to detect any recurrence.

Discussion

Kimura's disease is a rare chronic inflammatory disorder. It closely resembles angiolymphoid hyperplasia and was earlier thought to be the same disease.

First description of this disease appeared in Chinese literature by Kim and Szeto as eosinophilic hyperplastic lymphadenopathy in 1937. But this disease became popular as Kimura's disease after Kimura *et al.* reported it in Japanese literature in 1948.[8]

Kimura's disease is characterised by clinical presentation of painless multiple soft tissue swellings commonly occurring in the head and neck. Involvement of skin of post auricular, parotid, submandibular regions including the salivary glands and regional lymph nodes occurring before or simultaneous to orbital lesions is common.[2] Other sites of occurrence are axillary, inguinal, epitrochlear and retroperitoneal. Occurrence as mediastinal mass has also been reported.[9]

The disease is endemic in Asians, more common in males and occurs commonly in the second and third decades.[3] Systemic features include peripheral eosinophilia accompanied with raised serum IgE levels.[3] Cutaneous symptoms like pruritis and dermatitis may accompany the swellings which are usually painless.

Presentations in the form of steroid responsive thromboangitis obliterans 4 and minimal change nephrotic syndrome leading to renal failure and need for hemodialysis have

been reported.[5]

Asthma , Reynaud's phenomenon may also be associated with this disease.[11]

Histopathological characteristics include destruction of normal architecture and replacement with a heavy lymphoid infiltrate with numerous lymphoid follicles and prominent germinal centres. The inter follicular infiltrate are rich in eosinophils and plasma cells forming micro abscesses. Numerous thin walled vessels showing sclerosed walls and perivascular eosinophilic infiltrates have also been reported.[3]

Differential diagnosis for Kimura's Disease include Mikulicz disease, Angioimmunoblastic lymphadenopathy, Acute Lymphocytic Leukemia, Hodgkin's disease and Eosinophilic Granuloma.[10] Cosmetic disfigurement and pressure symptoms are the usual indications for surgery.[6] Management guidelines are unclear. The usual treatment modality is surgical excision. Use of steroids and intralesional irradiation has been attempted without much help.[6] Recurrence to the extent of 25-40% has been reported.[6] Cyclosporine A has been found to be useful in treatment and prevention of recurrence of Kimura's disease in the dose of 5 mg/kg/day. Slow tapering is advisable to prevent recurrence.[6]

Conclusion

Kimura's disease is a rare entity with a varied presentation. Supratrochlear node involvement is rarer and hasn't been reported earlier in Indian literature. Cosmetic disfigurement is the indication for surgery, which is the main treatment modality. Other treatment modalities like steroids, irradiation and use of cyclosporine A are under evaluation and not proven therapy yet. Recurrence is common hence careful follow up is must in every case.

References

1. Avinash K Shetty, Michael W Beaty, William F McGuirt Jr, Charles R Woods, Laurence B Givner. Kimura's Disease: A Diagnostic Challenge. *Pediatrics*. 2002; 110(3): e39.
2. Buggage RR, Spraul CW, Wojno TH, Grossniklaus HE. Kimura disease of the orbit and ocular adnexa. Department of Ophthalmology, Emory University School of Medicine, Atlanta, Georgia, USA. *Surv Ophthalmol*. 1999; 44(1): 79-91.
3. Chintamani, Sugandhi N, Khandelwal R, Tandon M, Jain S, Narayan N, Bansal A, Saxena S. Kimura's disease masquerading as parotid malignancy. *JRSM Short Rep*. 20105; 1(5): 41.
4. Takao Nagashima, MD, PhD, Takeshi Kamimura, Hiroyuki Nara,Masahiro Iwamoto, Hitoaki Okazaki, Seiji Minota. Kimura's Disease Presenting as Steroid-Responsive Thromboangiitis Obliterans. Division of Rheumatology and Clinical Immunology, Jichi Medical University, Shimotsuke-city, Tochigi 329–0498, Japan. *Circulation*. 2006; 114: e10-e11.
5. K Sud, T Saha, A Das, N Kakkar, V Jha1, HS Kohli and V Sakhuja. Kimura's disease and minimal-change nephrotic syndrome. Departments of Nephrology and Pathology, Postgraduate Institute of Medical Education and Research, Chandigarh, India. *Nephrol Dial Transplant*. 1996; 11: 1349-1351.
6. VV Shenoy, SR Joshi, VS Kotwal, RT Shedge, NN Ramraje, DN Lanjewar. Recurrent Kimura's Disease: Excellent Response To Cyclosporine. Grant Medical College & Sir J.J. Group of [Govt.] Hospitals, Mumbai, India. *JAPI*. 2006; 54: CR-153.
7. Kim HT, Szeto C. Eosinophilic hyperplastic lymphogranulomas, comparision with Mikulicz's disease. *Proc Chin Med Soc*. 1973; 23: 699–700.
8. Kimura T, Yoshimura S, Ishikawa E. On the unusual granulation combined with hyperplastic changes of lymphatic tissue. *Trans Soc Pathol Japan*. 1948; 37: 179–80.
9. Zhang C, Hu J, Feng Z, Jin T. Kimura's disease presenting as the middle mediastinal mass.

Department of Thoracic and Cardiovascular Surgery, The First Affiliated Hospital, College of Medicine, Zhejiang University, Hangzhou, China. *Ann Thorac Surg*. 2009; 87(1): 314-610.

10. Hui PK, Chan JK, Ng CS, Kung IT, Gwi E. Lymphadenopathy of Kimura's disease. Clinical Pathology Unit, Kwong Wah Hospital, Hong Kong. *Am J Surg Pathol*. 1989; 13(3): 177- 86.
11. Davood Maleki, Alireza Sayyah, Mohammad H Rahimi-Rad and Nasrin Gholami . Kimura's disease with eosinophilic panniculitis - treated with cyclosporine: a case report. Urmia University of Medical Sciences, Imam Khomeini Hospital, Ershad street, Urmia, Iran. *Allergy, Asthma & Clinical Immunology*. 2010; 6: 5.

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[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006;35:540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003;61:347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997;195 Suppl 2:3-9.

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[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000;71:1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O, Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ 20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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