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DUAL MIDLINE VENTRAL HERNIA: A UNIQUE CASE

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ABSTRACT: Dual midline ventral hernia although not very common, a combination of infraumbilical with incisional hernia is unique. A obese lady in her sixth decade of life was diagnosed as having this unique combination and was treated by meshplasty and removal of umbilicus. Postoperative period was uneventful and patient discharged on 7th postoperative day.

KEYWORDS: Incisional Hernia, Umbilical Hernia, Meshplasty.

INTRODUCTION: Incisional hernias develop in 3.8–11.5% of cases after abdominal surgery. The incidence depends on a number of factors including old age, sex, obesity, bowel surgery, suture type, chest infection, abdominal distension and wound infection.^(1,2) Ninety percent of incisional hernias occur within 3 years of operation.⁽³⁾ Repair of large abdominal incisional hernias is a difficult surgical problem with recurrence being a common complication. Recurrence rates of up to 33% after first repair and 58% after second repair have been reported.⁽⁴⁾ Umbilical hernias are common in obese individuals.

CASE DESCRIPTION: A 63 years old lady was referred by Gynaecologist to Surgery department with diagnosis of incisional hernia. On taking a detailed history it was found that she had pain in both flanks and lower abdomen since 6 years, increased since 1 month. Past history revealed that she was operated for tubectomy 30 years back. Four years after the surgery she developed a swelling at the operated site, which was progressively increasing in size for which she got operated 12 years back. After the surgery over a period 12 years, she has again developed a swelling over the abdomen which is progressively increasing in size to attain the present size. She is a known case of hypertension since 15 years. She has 4 children. General physical examination revealed vitals in normal range. Per abdomen examination revealed she had infraumbilical hernia since 6 years, with incisional hernia Fig. 1. Skin over the incisional hernia was very much thinned out showing early features of impending rupture. On investigation by Ultrasonography the diagnosis was confirmed but revealed that incisional hernia has 2 sacs 1 measuring 3 *2 cms and another 2.5*2.4 cms. Patient was told about the treatment options at our hospital after which she was worked up for other investigations and taken for surgery.

Patient was also told about removal of umbilicus and mesh repair. During surgery a slightly curved midline incision extending from above umbilicus to site of incisional hernia was taken. Two sac were noted at incisional hernia site one in midline 7 cms below umbilicus and another 2 cms lateral to midline below the former sac Fig. 2. The contents of sac were found to be omentum at both the sites with adhesions to sac. After reducing the contents, umbilicus was excised and the primary repair was done, followed by mesh repair Fig. 3. Suction drain was placed in the subcutaneous fat. Skin was then approximated with deep sutures Fig. 4. The patient is being followed since one year after the wound healing Fig. 5.

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DISCUSSION: In as many as 1 in 3 abdominal wall closures, the fascial layer of the wound will fail to heal due to hemodynamic instability of wound contamination, especially in malnourished patients.⁽⁵⁾ As a result, approximately 200,000 incisional hernia repairs are performed each year in the United States alone at a financial cost of nearly 2.5 billion dollars.^(6,7) Obesity is a risk factor for the development of umbilical hernia. Open hernia closure could be challenging in obese patients leading to high rates of recurrence.⁽⁷⁾ Incisional hernias occur as the result of combined biomechanical failure in an acute fascial wound when considering the clinically relevant impediments to acute tissue repair together with the normal function of the abdominal wall to support increasing loads during the postoperative recovery period.⁽⁸⁾ Acute fascial separation occurs early in the postoperative period, leading to the delayed clinical development of abdominal wall incisional hernias.⁽⁹⁾ Our patient developed incisional hernia 4 years after surgery.

The most frequently identified clinical risk factors include a suboptimal closure technique, deep wound infections, malnutrition, peri-operative hypotension, steroid use, and aortic aneurysm disease.^(10,11) Normally, an acute fascial wound needs to pass through a complex series of well-orchestrated molecular and cellular events beginning with hemostasis and inflammation and leading through angiogenesis and fibroplasia until a provisional matrix is formed that is capable of resisting the distractive forces of the abdominal wall.⁽¹²⁾ The end point of acute wound healing therefore is the nearest approximation of normal uninjured tissue structure and function. In the case of the abdominal wall, this means the timely reestablishment of an efficient load-bearing scar at the myofascial layer. Abnormal progression of the acute wound-healing trajectory impairs the recovery of wound tensile strength.⁽¹³⁾

The use of different combinations of composite (polypropylene and e-PTFE) or reabsorbable prosthetic materials, of mesh with hydrophilic coatings and of mesh coupled with flaps can provide a solution, even in cases of abundant loss of abdominal wall substance, when adequate covering of the inner surface cannot be achieved with peritoneum or omentum.⁽¹⁴⁾ This patient was operated by mesh and primary repair. After removal of umbilicus a single mesh was used to cover both umbilicus and incisional hernia site in our case. To our knowledge, this is a rare case report on the occurrence of a dual ventral hernia with such a combination. The presence of umbilical hernia logically speaking should not occur as the sac of incisional hernia is usually large. But in such a situation if both hernias occur in midline then such a modality can be the mode of treatment.

CONCLUSION: Incisional hernias are common complication after abdominal surgery. Care should be taken for weight reduction and any dual occurrence hernias in midline can be treated simultaneously and reported.

REFERENCES:

1. Bucknell TE, Cox PJ, Ellis H. Burst abdomen and incisional hernia: a prospective study of 1129 major laparotomies. *BMJ* 1982, 284: 931-933.
2. Derek AD, Xue W, Ann K, Martin CR, Michael GF. The Prevention of Incisional Hernia Formation Using a Delayed-Release Polymer of Basic Fibroblast Growth Factor. *Ann Surg* 2004, 240(1): 179-186.

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3. Read RC, Yoder G. Recent trends in the management of incisional herniation. *Arch Surg* 1989, 124: 485-488.
4. Luijendijk RW, Hop WCJ, Tol MP. A comparison of suture repair with mesh repair for incisional hernia. *N Engl J Med* 2000, 343: 392-398.
5. Carlson MA. Acute wound failure. *Wound healing. Surg Clin North Am* 2001, 77: 607-635.
6. Wedbush Morgan Securities: Biotechnology in wound care. 2001, 4: 1-82.
7. Franz MG, Kuhn MA, Nguyen K. Early biomechanical wound failure: a mechanism for ventral incisional hernia formation. *Wound Rep Reg* 2001, 9: 140-141.
8. Pollock AV, Evans M. Early prediction of late incisional hernias. *Br J Surg* 1989, 76: 953-954.
9. Viidik A, Gottrup F. Mechanics of healing soft tissue wounds. In *Frontiers in Biomechanics*. Edited by Schmidt-Schonbein G, Woo S, Zweifach B. New York: Springer; 1986: 263.
10. Anthony T, Bergen PC, Kim LT, Henderson M, Fahey T, Rege RV, Turnage RH. Factors affecting recurrence following incisional herniorrhaphy. *World J Surg* 2000, 24.
11. DuBay DA Franz MG. The Biology of wound healing failure. *Surg Clin North Am* 2002.
12. Franz MG, Robson MC. The use of the wound healing trajectory as an outcome determinant for acuter wound healing. *Wound repair Regan* 2001, 8: 511-516.
13. Deligiannidis N, Papavasiliou I, Sapalidis K, Kesisoglou I, Papavramidis S, Gamvros O. The use of three different mesh materials in the treatment of abdominal wall defects. *Hernia* 6(2)51-52.
14. Van't Riet M, de Vos van Steenwijk PJ, Bonthuis F, Marquet RL, Steyerberg EW, Jeekel J, Bonjer HJ. Prevention of adhesion to prosthetic mesh: comparison of different barriers using an incisional hernia model. *Ann Surg* 2003, 237: 123-8.

Fig. 1: Infraumbilical hernia and incisional Hernia

Fig. 2: Intraoperative picture showing different sac

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Fig. 3: After meshplasty

Fig. 4: Post-operative with drain

Fig. 5: Postoperative day 30

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