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GIANT INGUINAL HERNIAS AND THEIR CHALLENGES-MAX MOHALI EXPERIENCE

Surgery

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ABSTRACT

Giant inguinal hernias are defined as hernias those which extend about midthigh.Though inguinal hernia is common condition dealt by general surgeon and most common surgery being performed, giant inguinal hernias are very unusual and pose a major risk in postoperative management and is challenging situation. And patients being old age with associated comorbidities further makes post-operative course difficult. Management of giant inguinal hernias not only removes their hernias but it also removes their social stigma and brings their personal dignity with better standard of life.

KEYWORDS

CASE PRESENTATION:

- First patient was 64 year male known hypertensive with obstructive sleep apnoea presented with progressive large right sided scrotal swelling from 30 yrs which was extending below lower border of patella.Blood work up was with in normal limits.Contrast enhanced tomography of abdomen (CECT) was suggestive of giant inguinal hernia with contents as bowel and omentum with no obstruction or gangrenous changes.After pre-operative conditioning patient was taken for surgery.
- Second case was 93 year male known case of coronary artery disease, hypertension with triple vessel disease and with benign prostatic hyperplasia presented to emergency department with history of right sided inguino-scrotal swelling from past 25 years which was progressive,now presented with one day history of increase in pain. Initial assessment showed pulse rate of 70/min with blood pressure of 72/44 millimeters of mercury. On examination abdomen was soft with large inguino scrotal swelling. Ultrasound and CECT abdomen was suggestive of large inguinal hernia with herniation of small bowel loops suggestive of obstruction. After proper evaluation and preoperative conditioning patient was taken for surgery under high risk consent.

FIGURE -1: SHOWING PICTUREOF PATIENT WITH LARGE HERNIA EXTENDING BELOW KNEE JOINT

FIGURE 2:INTRA OPERATIVE PICTURE SHOWING HERNIAL CONTENTS CONTAINING SMALL BOWEL,CAECUM,ASCENDING COLO AND TRANSVERSE COLON WITH THICKENED OMENTUM

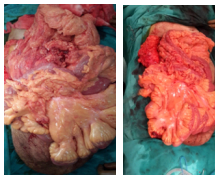

FIGURE 3: RESECTED OMENTUM SPECIMEN

Right inguinal hernia repair with omentectomy and orchidectomy with scrotoplasty was done in both patients with romovac drain placement.Both patients were initially managed in Intensive care unit and were electively kept on ventilator.Though initially patient were on inotropes and had gradual response at initial two days, but patient later responded well with decrease in inotropic support and were weaned off from ventilator. The drain output ranged initially from 800- 1000ml, subsequently drain output decreased. Patients were later kept on ventimask and gradually were brought on room air.one patient received 1 unit of packed red blood cells due to low hemoglobin level. Patients were gradually put on oral diet , tolerated well. Both patients were discharged in satisfactory condition one on post-operative day-8 and day-10 respectively.

Challenges before us:

Preoperatively: Both patients with large hernias and their associated comorbidities

Postoperatively: sudden reduction of contents which might predispose to abdominal compartment, postoperative inotropic and ventilator support with initial slow response.

DISCUSSION:

An inguinal hernia is considered to be Giant if its lower end reaches mid-thigh or beyond when the patient is standing, in our patient hernia was extending below the knee joint extending slightly over upper 1/3 of leg in standing position. The massive size of hernia can interfere with daily routine work. Penis can be buried inside the scrotum causing urine to dribble over the scrotal skin, which is already congested by lymphatic and venous edema, causing excoriation, ulceration and secondary infection (1).Ipsilateral spermatic cord is greatly elongated and prone to torsion. Complications in giant inguinal hernias can even be fatal. In our case also penis was buried and there was large scrotal

ulceration over bottom.

The contents commonly found in inguinal hernias are omentum and small bowel, though stomach, cecum, appendix, sigmoid colon, urinary bladder, ovaries and even the entire mesenteric small bowel and colon have been reported (2), in our cases it was small bowel, caecum, ascending colon, transverse colon.

Potentially fatal cardio-respiratory failure can develop following the reduction of giant hernia, due to the sudden increase in intra-abdominal pressure and elevation of the diaphragm. Postoperative ileus can further increase intra-abdominal pressure (3). In our case also patients were initially on inotropic support with respiratory compromise due increased intra-abdominal pressure and previous comorbidities.

Intra-abdominal hypertension can develop because of the disproportion of abdominal domain and the large amount of content in the hernial sac. The high rate of mortality is clearly observed following forced reduction of giant inguinal hernia. Increase of intra-abdominal pressure generally affects regional blood flow in abdominal cavity, other organs outside abdomen, as well as the cardiovascular and respiratory systems. Intra thoracic pressure is raised as a result of cephalic displacement of diaphragm through the increase of intra-abdominal pressure. Venous return, cardiac output and blood pressure are decreased by this phenomenon. Moreover, increase of intra thoracic pressure causes increase of inspiratory rate and mean airway pressure, while tidal volume and pulmonary compliance are reduced. Therefore, vital signs and urine output should be closely monitored (4). Respiratory support may be needed until ileus starts to resolve. In our case also strict monitoring of intra-abdominal pressure and signs of raised pressure were done, there was raised intra-abdominal pressure associated with cardiorespiratory compromise which was reflected by initial postoperative inotropic and ventilator support.

Most hernia sacs, which extend below the imaginary line at lower thigh but above the line between superior borders of patellar bone require additional procedures rather than simple hernioplasty alone (5), except only one case reported by Coetzee et al. The additional operations were introduced to prevent intra-abdominal hypertension. In cases that the hernia sac extends below the line between superior borders of patellar bone, additional procedures are almost always needed in addition to forced reduction and simple hernioplasty. The two major techniques required are resection of hernia contents and intra-abdominal volume increase procedure(6) .In our cases though hernia were extending below lower border of patella neither intra-abdominal volume increase was done or resection of bowel except for omental resection and orchidectomy.

Moreno first reported the application of preoperative progressive pneumoperitoneum to ventral hernias and this technique was subsequently applied to giant inguinal hernia repair. The concept is to preoperatively ensure adequate room in abdominal cavity by pneumo peritoneum before reduction of the hernial contents (5-8). This technique involves gradually insufflating the gas into abdominal cavity via placed catheter in situ, usually in increments from 500 cc to 2000 cc per day over 7–14 days. Rotation of viable tissue is the other technique to increase intra-abdominal volume by increasing surface of the abdominal wall.

CONCLUSION:

Giant inguinal hernias are unusual presentations which pose technical challenges for operating them and their postoperative management. Management includes preoperative volume increase techniques or resection of contents or a simple hernioplasty with forced reduction. Strict post-operative management plays crucial role. Serial monitoring of abdominal pressures and changes of intra-abdominal compartment syndrome should be done vigilantly. Management of giant inguinal hernias not only removes their hernias but it also removes their social stigma and gives them back their personal dignity and better standard of living.

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