

GIANT INGUINOSCROTAL HERNIA A CASE REPORT

CRThambi Dorai

**Hospital Daerah
Talping, Perak
Malaysia**

CRThambi Dorai, MS, FRCS(E), MNAMS
Surgeon

SYNOPSIS

The preoperative preparation using progressive pneumoperitoneum, in a case of giant inguinoscrotal hernia with bronchial asthma is described.

INTRODUCTION

Preoperative treatment by progressive pneumo peritoneum was first described by Moreno (1) for long standing and large ventral hernias, to avoid the stress of sudden return of viscera on the respiratory system and to prevent tension on the wound. The same considerations apply in a giant inguinoscrotal hernia, especially with bronchial asthma.

CASE REPORT

A 53 year old Indian male presented with a massive left inguinoscrotal hernia of 20 years duration. He has been a bronchial asthmatic for about 15 years but the attacks had become less frequent recently.

He was of thin build and mildly tachypnoeic at rest (Respiratory rate 22/minute and pulse rate 84/minute). The abdominal muscles were weak with Malgaigne's bulges. The chest was barrel shaped, the maximum chest expansion at nipple level being 2 cms. He could blow a match stick held at 3" from the widely open mouth. (2) He had scattered rales and rhonchi in both lung fields.

The hernia was so large that the scrotum was reaching up to the knees, widely separating the thighs. (Fig. 1) The penis was buried in the scrotum and the preputial orifice could be seen only as a slit. Cough impulse was present but the hernia was not visibly reducible. The hernia was interfering in all his activities. Per rectal examination was normal.

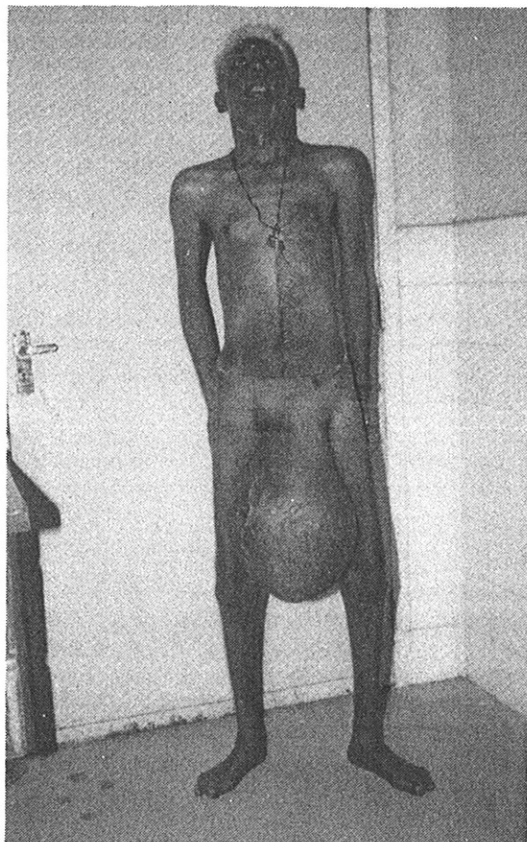


Fig. 1 Photograph of patient with the massive inguinoscrotal hernia.

Basic investigations were within normal limits. Xray of the chest showed emphysematous changes. Blood gas analysis showed diffusion defect. (PCO₂ 30mmg Hg. PO₂ 84mmg Hg. O₂ saturation 94% Ph 7.4)

The following preoperative preparation was adopted: Chest physiotherapy and oral theophylline 125mg x tds. A week after admission, the foot end of the bed was elevated for increasing periods. The idea was to make the reducible part of the hernia contents to get back into the abdomen and to encourage the diaphragm to act against the stress of abdominal contents and gravity as well as to promote venous return from the legs. (1) Initially, he could tolerate only less than an hour of such postural stress and had tachypnoea and discomfort. Gradually over a period of ten days, he could tolerate increasing hours and was able to lie the whole night in the

Trandelenburg position.

Following this, induction of pneumoperitoneum was commenced. This phase lasted for a month during which pneumoperitoneum was induced five times, at intervals of six days between each induction.

On the day of pneumoperitoneum, the patient was on fluid diet. He was placed in the supine position and under local anaesthesia a spinal needle was inserted into the peritoneal cavity, at the middle of a line joining the right anterior superior iliac spine with the umbilicus and air was introduced using a syringe. The injection was continued till patient complained of discomfort and the abdomen became slightly protruberent. On first injection he could tolerate only 500cc of air but by the third injection he could tolerate 1.5 litres and during the fifth session 2 litres of air was introduced. The injections were done slowly over 5 to 6 minutes. For 2 days after each pneumoperitoneum induction, the vital signs were monitored. No major change was noted except for mild tachypnoea and tachycardia in the initial hours.

He was operated after about seven weeks of preoperative preparation.

Under general anaesthesia, through a left inguinoscrotal incision, the inguinal canal was exposed and the scrotal layers were deepened. The scrotal layers were thick indicating the chronicity of the hernia. On opening the sac, the contents were found to be nearly the whole length of ileum, the transverse colon, the pelvic colon and nearly the whole of greater omentum. The flimsy adhesions between the contents as well as the sac were released and part of the greater omentum was excised. The patient was placed in Trandelenburg position to aid reduction. The large indirect sac was closed with continuous sutures after dissection up to internal ring. After orchidectomy, the stretched internal ring was closed. Nylon darning was performed in two layers, with the sutures running between the conjoint tendon and inguinal ligament. Incision was closed with a drain in scrotum. Scrotoplasty was not done in order to avoid prolonging the operation time and also because the redundant scrotum is known to shrink to reasonable proportion over months (3). Anaesthesia was uneventful.

Post operatively, he was put on naso gastric suction till bowel sounds were well established (till 3rd post operative day). The head end was elevated to enable the intestines to descend into pelvis and to aid respiratory excursions. This was maintained for three days. Physiotherapy and intermittent nasal oxygen were given. He had abdominal distension and tenseness for the first two days, which decreased with the passage of flatus and onset of bowel movements. The vital signs were stable and there were no postoperative lung changes. The sutures were removed on 8th day. The wound union was good. The patient is very satisfied with the result and is presently under follow up.

DISCUSSION

Sudden return of the large hernial contents into the abdominal cavity, which has long been unaccustomed to their presence, leads to abrupt increase of intra abdominal pressure with the following effects:-

- A. Reduced movements of diaphragm with reduction in tidal volume and vital capacity, defects in gas exchange and basal lung collapse with superadded infection (1). The effects are aggravated by post operative factors like pain, paralytic ileus and anaesthetic drugs. Venous return is also secondarily affected. (4)
- B. Produces severe tension on the wound with poor wound healing. (1)

Preoperative progressive pneumoperitoneum

minimise these effects by increasing the capacity of the abdominal cavity. (1)

The technique of air injection followed in this case differs slightly from that described by Moreno (1) who had advised measuring intra abdominal pressure and also monitoring patient's vital capacity prior to and after an injection. Due to lack of facilities both the measurements were not done in this case.

To avoid air distending the hernial sac instead of the abdominal cavity, Moreno advised strapping across the orifice of the sac with strips of adhesive plaster, after invaginating the hernial contents. (1) This could not be done in this case for obvious reasons, but any increase in size or tenseness of the scrotum was watched for. These did not occur.

An interval of 5-6 days between sessions is suggested as by this time air is partially absorbed and the intra abdominal tension decreases, requiring re-introduction of air. (1)

To decide when the pre operative preparation could be considered adequate, Moreno advises measuring the vital capacity periodically. After the first one or two sessions vital capacity shows a fall but later (4th or 5th session) the vital capacity becomes steady or shows slight increase. When this occurs, the pre operative preparation could be considered adequate. (1) In this case, pneumoperitoneum was stopped empirically after 5 sessions, when the patient was able to tolerate introduction of two litres of air.

Pneumoperitoneum is contraindicated in the following situations. (1)

- (a) Aged patients in poor health and with complications like diabetes, uraemia etc.
- (b) Decompensated heart patients.

History of repeated incarceration or strangulation is a relative contra indication as an attack of strangulation can be precipitated. Such patients need to be closely watched for.

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