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Giant inguino scrotal hernia: A case report

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SUMMARY

Giant inguino — scrotal hernia is largely a problem of developing countries. A case of an unusually giant inguino-scrotal hernia is reported highlighting the problems encountered in management. Orchiectomy, bowel resection and relaxing epigastric incision were successfully employed in repairing the hernia. Hernias may not be difficult to manage if they are not neglected. Efforts of health education need intensifying in this direction. We propose thorough peri-operative pulmonary exercises to cut down the post-operative pulmonary morbidity.

INTRODUCTION

Inguino hernias and their complications constitute great surgical problems to surgeons in both the developed world. To the latter, they stand out clearly

as the most commonly encountered surgical problem. Alade (1976)¹ estimated that hernias accounted for 20-30 pc of the elective cases in Ibadan, Nigeria of which inguinal variety constituted over 90 pc. However, giant inguinal hernias, defined as those of enormous size bigger than the average human head,² which is a result of negligence and failure to report for prompt surgical treatment, is largely a developing world problem. Here, patients delay until complications set in and there is paucity of adequate facilities for medical care. A giant inguinal hernia constitutes a great socio-economic problem and poses a great challenge to practising surgeons. Moreover, management is associated with many difficulties including morbidity and mortality. The case we present depicts an unusually giant inguino-scrotal hernia managed under care, highlighting problems encountered in management. **Case Report:** Mr A A a 45 year old farmer presented via the casualty department on 6th June 1988 with an eight-year history of progressive left inguino scrotal swelling which was reducible and painless initially. A month before presentation the swelling became rapidly progressive and irreducible following a long trek home from the farm. Three weeks later, he developed intermittent colicky abdominal pain, size of the swelling became so large as to prevent recumbent position in bed. He had anorexia, loss of weight, recurrent fever and dysuria with frequent passage of small volumes of urine. However, there was no abdominal distension, nausea, vomiting or constipation. There was no previous history of chronic obstructive air way or urinary tract disease but his farm work entailed excessive straining. One of the two wives he married deserted him because of the groin swelling.

Physical examination revealed a dehydrated man with evidence of weight loss but with stable vital signs. His abdomen was scaphoid and contracted without tenderness or organomegaly. There was no prostatic enlargement on rectal examination. Local examination revealed a 66 cm by 43 cm huge left inguino-scrotal swelling with engorged prominent veins coursing over it. It was soft and fluctuant but had central resonant notes and peripheral dullness on percussion with audible bowel sounds. The penile shaft was virtually retracted into a scrotal cutaneous tunnel and the left testis was palpable below the swelling while the right testis was much higher at the neck of the right hemiscrotum (Figure 1).

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Infection by the schistosome occurs by the deposition of embolic eggs in the portal venous system for the portal entry. It is here that maturation of the adult worm takes place. The urinary bladder is the route to the exterior for *S. haematobium*, the rectum serving *S. Mansoni*. The passage of *S. haematobium* eggs in the urine of infected patients depends on the worm load.³ The mode of spread to the testes is uncertain, but presumably occurs from the infected bladder in a retrograde manner with eggs passed along the vas deferens to the testes. Joshi⁸ thought that maturation might occur in the spermatic venous plexus and that the deposited eggs were carried distally into the smaller vessels of the testis.

Macroscopically the affected testis may suffer fibrous atrophy; in other cases enlargement may occur simulating a testicular tumour. Histopathologically the eggs form the foundation stone around which the bilharzial lesion is organised, and typically in granulomatous lesions, epithelial cells, fibroblasts and inflammatory round cells including plasma cells and eosinophils are arranged in concentric circles round one or several eggs. In the testicle in the early stages focal granulomata may be found. Many tubules containing calcified spherules may be present. The aetiology of these bodies is at present uncertain.¹⁰ In advanced cases when necrosis, caseation and calcification have occurred the testicular substance is replaced by a white mass of calcified tissue, the normal architecture of the testicle being unrecognisable. The mechanism whereby eggs stimulate the bilharzial lesion is uncertain. Where the adult worms are absent, it is possible that acting as foreign bodies only, secreting no chemical or immune substances granulomata are formed around the eggs.

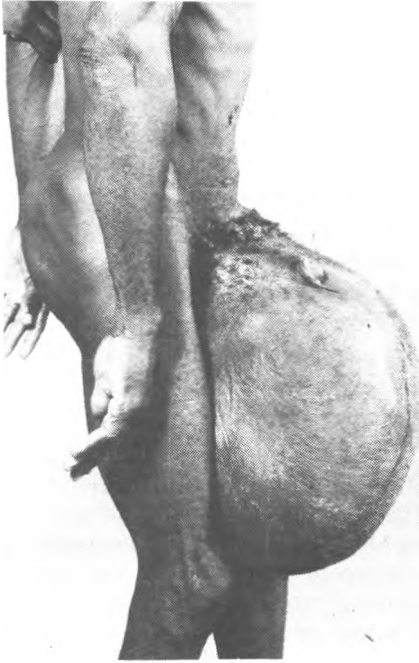
The management of the patient with a history of testicular enlargement of gradual onset is made more urgent by the need to exclude malignancy. A haematological profile together with biochemical analyses and chest X-rays are essential for diagnosis. Cystoscopy and excretion urography in addition to microscopy of a centrifuged urine specimen will in many cases establish the correct diagnosis. Campbell-Begg¹¹ doubted the value of urine microscopy in assisting diagnosis, arguing that in many cases the urine microscopy was free of eggs, red cells and albumin. Ramsay¹² in Northern Nigeria however found a close correlation between red cells,

leucocytes and albumin in the urine and active *S. haematobium* infection in endemic areas. Diagnosis may also be made by serological tests.¹³ Early exploration through an inguino-scrotal incision is of the utmost urgency in order to exclude a malignant testicular tumour, if a firm diagnosis has not been made by the other methods, Niridazole (ambilhar) is effective in the medical treatment of this disease.^{14, 15}

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Figure I: Pre-operative state



A diagnosis of an irreducible giant left inguino — scrotal hernia was made.

He was resuscitated with intravenous fluids and commenced on breathing exercises.

The full blood count, serum electrolytes, urea and proteins were within normal limits. The plain abdominal film (Figure II) (A) showed gas in both the small bowel (A) and the large bowel (B).

Contrast studies Figure II (B), (C) and (D) revealed that the sac contained bowel from proximal colon. The intravenous urography showed left hydroureter, hydropelvis and hydrocalcosis within the distal left ureter and part of the urinary bladder being pulled into the canal.

After a week of admission while being investigated, the hernia became rapidly progressive in size tense and tender with associated ischaemic scrotal skin changes. There was also persistent low abdominal pain.

A rapid mechanical and oral antibiotics bowel preparation was done within 24 hours and intravenous antibiotics given at induction preceded the operation of the hernia on 15th June 1988.

Figure II: Radiological studies done: (A): plain X-ray of the giant hernia; (B), (C) and (D): contrast studies; (B) and (C): combined barium meal follow through and intravenous urography; (D): intravenous urography

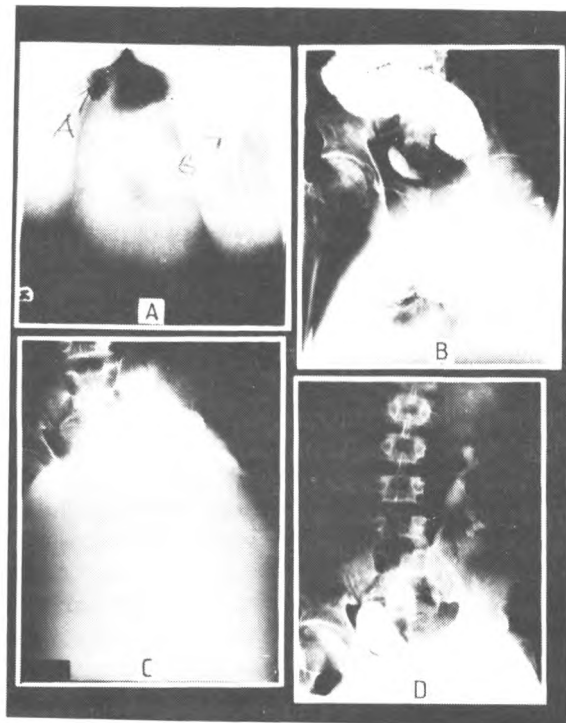


Figure III: Intra-operatiave findings



Figure IV: Clinical state eight months after operation



The hernia was found to be sliding type containing:

- (a) attenuated anterior inguinal layers and hypertrophic cremaster muscles.
- (b) 16 litres of straw coloured fluid loculated in multiple fibrous septa;
- (c) congested, oedematous bowel loops (from duodeno-jejunal junction to pelvic colon), with markedly hypertrophied mesenteric blood vessels, inseparably glued with fibrinous and fibrous adhesions. (Figure III).
- (d) portion of the urinary bladder.

A right hemi-colectomy and end-to-end ileo-transverse epigastric left inguinal hernioplasty were done. A releasing transverse epigastric incision down to the peritoneum was made to increase the capacity of the peritoneal cavity. The estimated blood loss of two litres was replaced adequately perioperatively. The chest physiotherapy continued post-operatively. He started moving his bowel on post-operative day one which subsequently became very frequent, loose and offensive. On post-operative day five he developed superficial wound infection and dehiscence which was adequately managed conservatively. He was discharged four weeks after

operation. He refused subsequent refashioning of the scrotum for he was satisfied with the cosmetic and functional result of the initial procedure. He has since been followed up regularly in the outpatient clinic, and his clinical state eight months following surgery is depicted in Figure IV. At present, he has regained his usual weight and energy.

DISCUSSION

Giant inguino-scrotal hernia is largely a developing world problem for it results essentially from neglect and long delay in presentation either due to ignorance, fear, supersaturation or lack of adequate medical facilities.

It has considerable socio-economic problems. Alde (1979)³ observed that marital disruption, occupational and psychosocial disturbances are accompaniments of these problems. Our patient in fact suffered a desertion by his wife and the enormous size of the hernia affected his mobility and livelihood.

The pathological changes associated with this condition are giant hypertrophy of the greater omentum, attributed to temperature differentials, hypertrophy of the cremaster muscle and vascular hypertrophy.⁴ The latter together with the need to free adhesion and resect bowel explains the considerable blood loss during operation in our patient.

The operative management of this condition is associated with a lot of difficulties due to contracted abdominal cavity which is at variance with the enormous bowels which are usually entangled in dense fibrous adhesions, weakens of the internal ring and posterior inguinal wall and the redundant scrotal skin. Various procedures have been described as aids to improving the abdominal cavity capacity thus enabling easy return of the contents of hernia and reduction of post-operative chest and abdominal morbidity. The progressive pneumo-peritoneum described by Berlemont⁴ and successfully used by Forrest (1979)³ in the management of two cases of giant inguinal hernia is usually achieved over 2-3 week period and may not be useful in emergency. Temporary epigastric incision dividing all the anterior abdominal wall structures save the peritoneum suturing the skin only requires the repair of the iatrogenic hernia so formed some days later of deliberate production of an incisional hernia.⁶ Other measures such as phrenic nerve crush ha attendant

basal atelectases. resection of the bowel contents following adequate bowel preparation, and the use of marlex mesh in repair of the posterior inguinal wall^{2, 7, 8, 9} have also been employed. Our patient showed signs of impending strangulated obstruction and left no time for prolonged pre-operative preparation. Therefore a Combination of some of these procedures and peri-operative pulmonary exercise was employed in this case. Left orchietomy was done to facilitate adequate posterior inguinal wall repair.

While the patient will require a long term follow up to determine the degree of success in the absence of recurrence, the performance in the immediate post-operative period and subsequently during follow-up for over two years is encouraging.

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