

Sclerosing Lipogranuloma of the Scrotum Following a Laparoscopic Herniorrhaphy and Varicocelectomy-A Case Report

H G Baladas,**MBBS, FRCS (Edin), FRCS (Glas)*, B K Ng,***MBBS, FRCS (Eng), FRCS (Edin)*

Abstract

“Sclerosing lipogranuloma” was first coined to describe a lesion of adipose tissue thought to be due to trauma. Later, analysis of the fat within these lesions showed the presence of exogenous paraffin hydrocarbons and a link with paraffin injection was postulated. In Japan, lipogranulomas without a history of trauma or paraffin injection have been described more frequently.

Our patient, developed such a lesion in his scrotum following a laparoscopic left herniorrhaphy and varicocelectomy (intra-abdominal approach). He had no prior history of trauma or paraffin injection. A possible relationship is postulated.

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Key words: *Laparoscopy, Management, Paraffin injection*

Introduction

The term “sclerosing lipogranuloma” was first coined by Smetana and Bernhard¹ in 1950 to describe a granulomatous reaction of adipose tissue which was attributed to trauma. In 1977, Yolanda and colleagues² identified exogenous hydrocarbons within these lesions. Sclerosing lipogranulomas without a history of trauma or foreign body injection are rare. This report presents a case where a lipogranuloma of the scrotum developed following a laparoscopic herniorrhaphy and varicocelectomy. A relationship is postulated.

Case Report

A 31-year-old man underwent a laparoscopic herniorrhaphy and varicocelectomy for a left indirect inguinal hernia and varicocele (intraperitoneal approach). At operation, 2 left spermatic veins were ligated with clips and divided. The neck of the hernial sac was dissected and peritoneal flaps were raised. A prolene mesh was placed preperitoneally and held in place with staples.

On the second postoperative day, he developed a left-sided scrotal swelling. This was attributed to haematoma formation and he was discharged with reassurance. Over the next 6 months however, the swelling did not resolve and became distinct from the left testes. It was located in the upper left side of the

scrotum and was freely mobile.

An ultrasound of the testes showed a mass of 5.1 × 3.9 × 2.9 cm in size superior to the left testis, containing mixed echoes. Both testes were normal. In the opinion of the radiologist, it was either a haematoma or part of an indirect inguinal hernia.

In view of these findings, exploration of the left testis was undertaken. At operation, a mass of similar dimension was found superior to the left testis, attached to the scrotal wall. It contained a friable yellowish material surrounded by a fibrotic capsule. It was excised completely with a rim of normal tissue.

Pathology Report

An ovoid mass 5.5 × 4.0 × 4.0 cm in size was submitted for pathological examination. The cut surface showed a firm greyish outer zone and a yellowish central area (Fig. 1). Light microscopy showed the central portion to be composed of adipose tissue with focal degenerative and necrotic changes (Figs. 2 & 3). Birefringent crystalline material was seen associated with foreign body giant cells (Fig. 4). The outer zone showed a fibrous reaction associated with Touton type giant cells, lymphocytes and plasma cells (Fig. 2).

Discussion

In 1950, Smetana and Bernhard coined the term “sclerosing lipogranuloma” to describe a granulomatous

* Registrar

** Clinical Associate Professor

Department of Surgery

Alexandra Hospital

Address for Reprints: Dr H G Baladas, Department of Surgery, Alexandra Hospital, 378 Alexandra Road, Singapore 159964.

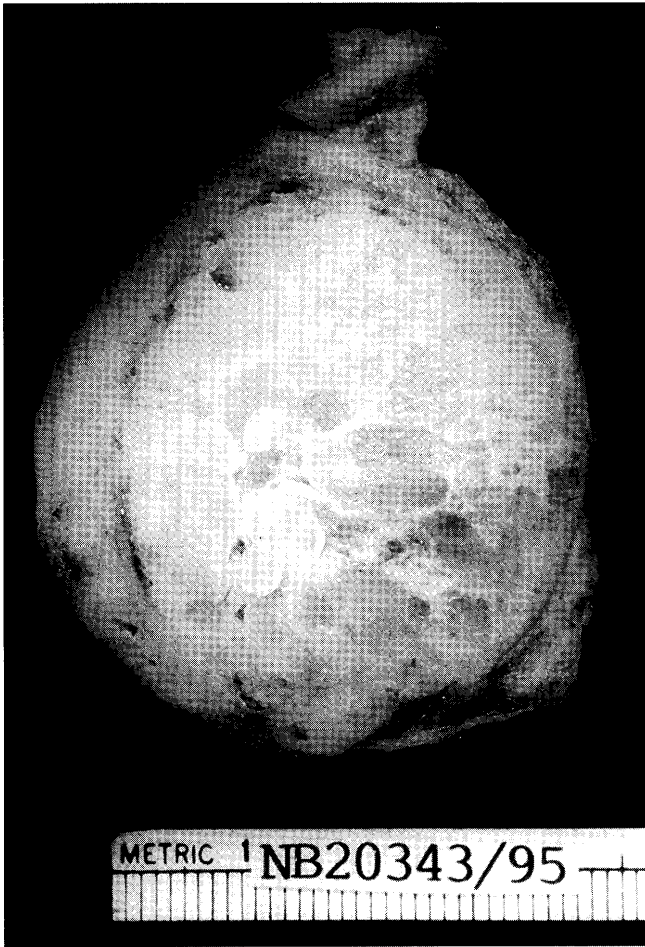


Fig. 1. Gross specimen with cut surface to show central fatty zone and peripheral fibrous zone.

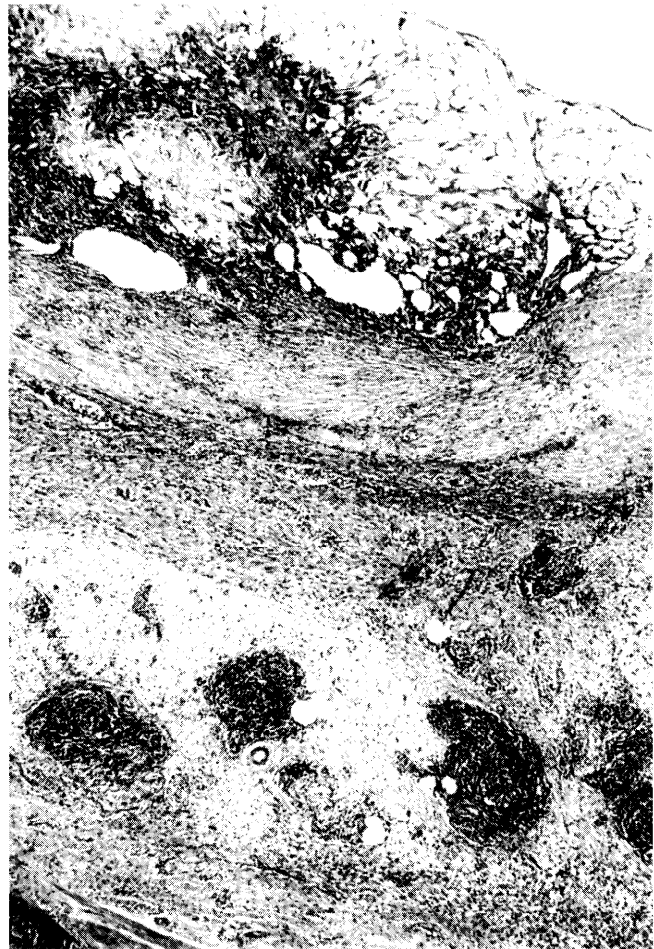


Fig. 2. Peripheral zone showing a fibrous reaction with chronic inflammatory cells and fatty tissue towards the centre. (Hematoxylin and Eosin x20)

lesion of adipose tissue which they attributed to trauma. In 1977, Yolanda and colleagues analysed slides and specimens of 21 cases of sclerosing lipogranuloma of the male genitalia (including 9 cases from Smetana and Bernhard's series) with infra-red absorption spectrometry and found that they all contained exogenous paraffin hydrocarbons. Lipogranulomas without a history of trauma or paraffin injection are rare but well documented in Japanese reports. In 1988, Masahiro and colleagues³ reported 2 cases and reviewed 3 other cases. None of them had a history of trauma or foreign body injection. In 1993, Takiyama and colleagues⁴ reported 2 cases where lipid analysis showed no exogenous material.

Our patient developed a left-sided scrotal swelling on the second postoperative day. He had no previous history of trauma or foreign body injection. The swelling failed to resolve and then became distinct from the left testis. Histology of the excised lesion revealed it to be a sclerosing lipogranuloma. The fact that the swelling developed on the second postoperative day strongly suggests a temporal relationship between this

lesion and the procedure.

One possible explanation for the pathogenesis of the lesion is as follows. Sterile liquid paraffin is used to lubricate laparoscopic instruments in our centre. During dissection of the hernial sac and reflection of the peritoneum, a minute amount of liquid paraffin may have tracked along the spermatic cord or hernial sac to reach the upper part of the scrotum. This material then incited a foreign body reaction which resulted in the sclerosing lipogranuloma. Another possible explanation is that traction applied to the hernial sac resulted in trauma to the fibrofatty areolar tissue surrounding the sac. Fat released from damaged fat cells near the fundus of the sac then resulted in a foreign body reaction in the upper part of the scrotum and resulted in this lesion.

As the procedure was entirely laparoscopic, it is unlikely that there was any direct trauma to the scrotum itself. At present, there are no reports that any laparoscopic procedure is associated with development of this condition.

The surgical and pathological importance of this

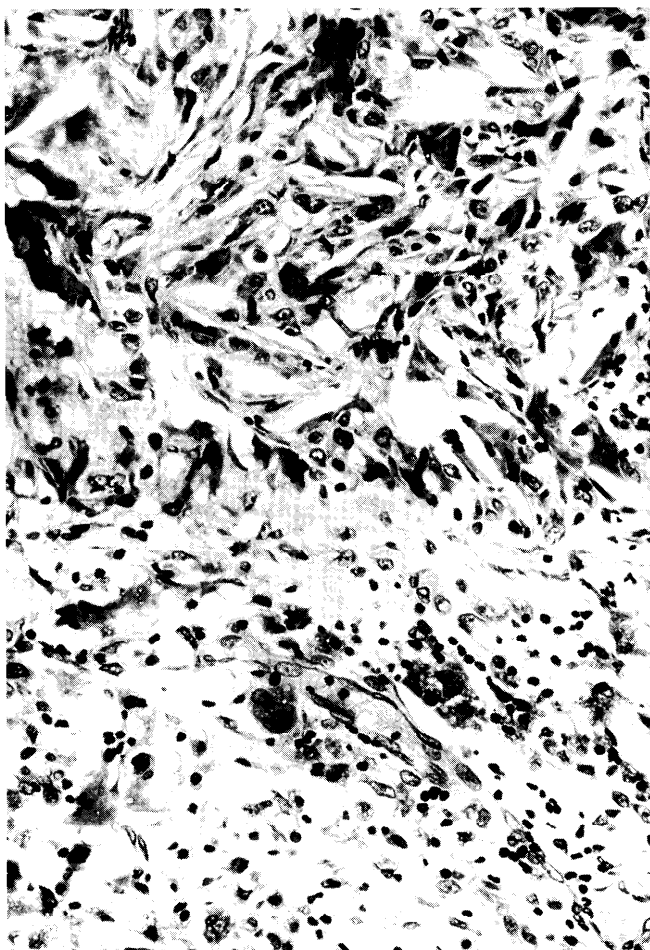


Fig. 3. Central zone showing foamy macrophages and inflammatory cells. (H & Ex200)



Fig. 4. Birefringent crystalline material in the central portion. (H & Ex500)

uncommon lesion is that it may be mistaken for a neoplasm. In the study of 21 cases by Yolanda and colleagues, 7 patients underwent a radical procedure (orchidectomy) while in the review by Masahiro and colleagues, 2 out of 5 patients underwent a orchidectomy as the lesion could not be distinguished from a neoplasm.

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