

Case Series

Spermatic cord lipoma and its clinical significance

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ABSTRACT

Cord lipoma is frequently seen during open inguinal hernia surgery. Author has selected three of his cases for discussion. These three cases represent various clinical presentations in which cord lipoma can cause recurrence, pseudo recurrence and inguinal pain. Author like to discuss clinical presentation, investigation and management of cord lipoma. This will help surgeons to know clinical significance of spermatic cord lipoma.

Keywords: Inguinal hernia, Chronic groin pain, Spermatic cord lipoma, Inguinal hernia recurrence

INTRODUCTION

According to Tobin et al, pre peritoneal and retro muscular areolar and adipose tissue inside the internal spermatic fascia gives covering to cord structures.¹ Adipose tissue in this layer causes false lipoma, we call it spermatic cord lipoma. Hellar et al in cadaver study described cord lipoma is always continuous with pre peritoneal fat through deep ring.²

Typical appearance of cord lipoma is a well differentiated pedunculated mass lying in the long axis of inguinal canal arising from pre peritoneal fat. This typical configuration is due to gravitational force and constraining effect of internal oblique muscle and spermatic fascia. True lipoma can even arise in cord or retro peritoneal intra-abdominally and can become even liposarcoma. These false cord lipomas were seen in 75% of cadaver inguinal dissections.² Author has detected false cord lipoma in many open inguinal hernia repair cases.

Hear, author wants to present three cases where cord lipoma was observed and like to discuss its clinical significance in management of such cases.

CASE SERIES

Case 1

50-year male with bilateral inguinal swelling and pain on both sides for last one year. Clinically there was cough impulse on both sides suggesting inguinal hernia. Patient underwent bilateral Lichtenstein hernioplasty.

On exploration of left side inguinal canal three cm. direct hernia was evident, for which plication was done. On opening internal spermatic fascia left indirect inguinal hernia along with cord lipoma was also evident. Indirect sac was ligated at neck and cord lipoma was dissected through deep ring up to pre peritoneum and excised. Routine mesh repair followed on left side (Figure 1).

On exploration of right-side inguinal canal more than three cm. direct hernia was evident and after opening internal spermatic fascia, cord lipoma was evident without indirect hernia. Direct sac required plication of direct defect and cord lipoma was excised to pre peritoneum before routine mesh repair (Figure 2).



Figure 1: Cord lipoma with left inguinal indirect hernia sac.



Figure 2: Cord lipoma without indirect hernia sac on right side.

Case 2

This 42-year male gives history of left inguinal pain for four weeks' duration without swelling. On examination cough impulse was elucidated at deep ring. Ultrasonography (USG) and computed tomography (CT) examination in Valsalva suggested cord lipoma. Patient showed a cord lipoma extending through deep ring up-to pre peritoneum after exploration. Deep ring was 1.2cm, regular mesh repair was done. Patient is pain free after surgery (Figure 3).



Figure 3: Left inguinal cord lipoma causing pain, without indirect sac, but with dilated deep ring.

Case 3

He is 33-year young adult came with pain and swelling at left inguinal region with previous operation scar. He gives history of herniotomy twenty years ago. As it is a recurrent inguinal hernia, we operated this patient. We found indirect inguinal hernia, along with cord lipoma after exploration. Again, cord lipoma was dissected through deep ring up-to pre peritoneum, indirect sac ligated at neck and rest excised. Mesh repair followed. Patient is pain free post-operative (Figure 4).

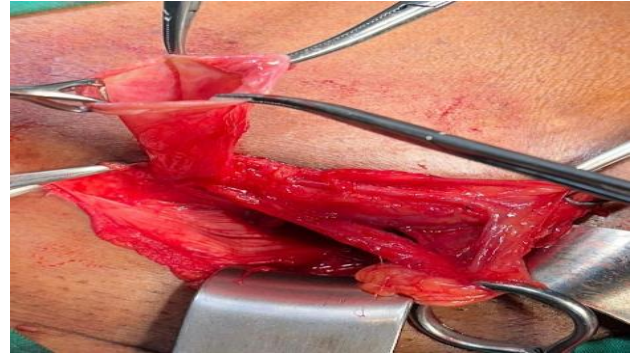


Figure 4: Left recurrent indirect inguinal hernia with cord lipoma.

DISCUSSION

In the first case there were direct defects and spermatic cord lipoma on both sides, but there was no indirect sac on right side. Hence cord lipoma can occur with or without indirect sac. Naser et al in his study found that 8% of patients with cord lipoma don't have indirect sac.³ While Yener et al found 2.9% patients with cord lipoma without indirect sac.⁴ Lau et al found 1% patients with cord lipoma without hernia sac during laparoscopic TEP repair of inguinal hernias.⁵ Hence 1 to 8% patients with cord lipoma may not have indirect sac.⁶

In our second case there was cord lipoma extending into pre peritoneal through deep ring without hernia sac. This patient had pain and bulge without true hernia. Deep ring was dilated 1.2 cm. According to EHS lipoma in inguinal canal is classified as L1 hernia if deep ring is dilated less than 1.5 cm.⁷

It is difficult to make clinical diagnosis of cord lipoma pre operatively, but clinician should always suspect cord lipoma in patients with inguinal pain with or without protrusion (cough impulse). If there is discrepancy between pre-operative inguinal hernia size identified on clinical examination and intraoperative finding, an intensive search must be undertaken for a lipoma deep in the inguinal canal.⁶

In third case patient had herniotomy at age of 9 years and he presented with recurrent inguinal hernia at age of thirty-three. Operative finding showed indirect sac along with

cord lipoma. In third case probably cord lipoma developed in adult life caused recurrence of inguinal hernia.

When there is no clinical protrusion in inguinal region but pain ultrasound can identify with 75% accuracy groin pathology (cord lipoma).⁸ It will be hyperechoic with connection to pre peritoneum. The absence of vascularity, no connection intra-abdominal are important finding of true lipoma. Missed or unresected spermatic cord lipomas can also be diagnosed as recurrence or pseudo recurrence on postoperative ultrasound.^{9,10} Pre-operative ultrasounds is useful for diagnosis of spermatic cord lipomas to avoid reoperation.¹¹ CT scan can also reliably diagnose spermatic cord lipoma pre-operatively.^{12,13} MRI scan is recommended for diagnosis of large lipoma or tumours in inguinal region.¹⁴

As spermatic cord lipoma is deep to internal spermatic fascia, in close proximity to arteries, veins, lymphatics, nerves and vas deference and united with areolar and adipose tissue, require meticulous blunt dissection preserving spermatic cord structures. These cord lipomas should be reduced or excised to avoid recurrence or pseudo-recurrence. International hernia society states cord lipoma may initiate primary hernia, or cause hernia recurrence or may become symptomatic later.¹⁵

Spermatic cord lipoma had its blood supply from peritoneum hence they can be reduced into retro-peritoneum.

Spermatic cord lipoma, due to its location within internal spermatic fascia and close proximity to genital branch of genitofemoral nerve, ilioinguinal nerve can give rise to clinical picture like bulge and pain as seen in inguinal hernia. It can be there in 1 to 8% without inguinal hernia.⁶ In patients with indirect sac, it will cause discrepantly increase in size of bulge.

As spermatic cord lipoma is found in 71.9% of open inguinal hernia repair.¹⁶ Surgeon should be aware and treat spasmatic cord lipoma judiciously to reduce recurrence, pseudo recurrence and persistent pain post operatively when missed a significant lipoma.

In females' prevalence of round ligament lipoma is low 1.4 to 36%.¹⁷

Spermatic cord lipoma is difficult to detect clinically, but USG, CT, MRI will help for preoperative detection of cord lipoma. True lipoma is vascular and don't have connection with pre peritoneum. When liposarcoma is suspected Tru-cut biopsy and open approach to surgery is advised.

There is no evidence that very small lipoma should be excised or reduced, it may be overtreatment. Blunt dissection is recommended for removal of spermatic cord lipoma to prevent damage to cord structures.

In clinical studies prevalence of spermatic cord lipoma was only 20-30% during laparoendoscopic inguinal hernia.³ During laparoscopic repair cord lipoma is reduced in pre peritoneum and is kept on top of mesh to prevent mesh rolling and recurrence.

CONCLUSION

During open hernia repair cord lipoma is more frequently seen than laparoscopic repair. Significant cord lipoma should always be removed to prevent recurrence, pseudo recurrence and prevent post-operative chronic pain. Significant cord lipoma may cause groin pain without hernia. Paediatric congenital inguinal hernia had recurred due to cord lipoma developed in later life. This case series will help young surgeon knowing clinical significance of cord lipoma.

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