

Inguinal Vasal Obstruction Following Polypropylene Mesh Repair

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ABSTRACT

Inguinal vasal obstruction following hernia repair is related to either direct injury to vas or ischemic injury leading to delay stricture. Not much has been described regarding the long term impact of synthetic mesh as far as integrity of the cord structure is concerned. Here, we report a case that underwent mesh explantation for posthernioplasty inguinodynia as well as recurrence and found to have total occlusion of the lumen of vas segment adherent to the explanted mesh on microscopic examination.

Key Words: *inguinal hernia, polypropylene mesh, vas obstruction*

INTRODUCTION

Commonly used method of inguinal hernia repair includes prosthetic mesh repair as described by Lichtenstein.¹ Tension free mesh repair is done by applying polypropylene mesh on the floor of the inguinal canal which is technically less demanding. More than that recurrence is as low as 0.4%-1.1% quoted in various literatures.^{2,3} In spite of its obvious advantages, fibrotic reaction caused by the mesh to adjacent cord structures leading to inguinal vasal occlusion had been studied earlier by Uzzo RG et al in canine model⁴ but the same in human is not well studied and underreported.

CASE REPORT

A 30 year, male underwent mesh repair three years back elsewhere presented with chronic inguinodynia impairing his daily activities. On examination he was

found to have tenderness on previous operation site and recurrence. Mesh explantation was planned and patient was informed about the possibility of iatrogenic injury to cord structures. On exploration, dense fibrotic tissue in inguinal canal was found and cord structures were completely fused with mesh. Mesh was explanted along with the adherent vasal segment and was sent for histopathological examination. It revealed complete occlusion of vasal lumen. Due to poor tissue quality, mesh reimplantation in preperitoneal space was done and the surgery was completed after doing neurectomy. Patient was pain free in post operative follow up.

DISCUSSION

Groin hernias surgery has remained a challenge for many years. Bassini, Mc Vay and Shouldice are few anatomical repair procedures of which Shouldice

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repair has the least recurrence rate.⁵ I. L. Lichtenstein is credited with polypropylene mesh with negligible complication rate in 1000 consecutive patients in 1 to 5 year follow up and advocated its use routinely in all groin hernia.⁶ Mesh causes foreign body reaction leading to increased wall strength but may probably cause pain.⁷ For post hernioplasty inguinodynia restricting daily activities, mesh explantation and neurectomy is done which alleviates pain in 60% of the patients.⁸ We did mesh explantation in our case for the recurrence and inguinodynia.

A possible complication regarding mesh has been inguinal vasal occlusion. Christian Peiper et al showed structural changes including focal fibrinoid necrosis in rat and pig model following mesh implantation but no changes in contralateral side where Shouldice repair was done.⁹ Reduced cross sectional area and

testosterone production was observed after the use of synthetic mesh compared to control side in a rat model by Berndsen FH et al.¹⁰ The incidence of vasal occlusion in human following any type of hernia surgery ranges from 0.3% to 7.2% in various literatures.^{11,12} A multi-institutional experience regarding the same by David Shin et al showed two iatrogenic injury vas and twelve obliteration within mesh.¹³ In our single case experience, a segment of vas incorporated in mesh when sent for microscopic examination was found to have complete luminal obliteration.

Mesh repair reduces the recurrence of inguinal hernia but causes foreign body reaction leading to structural changes in vas as well as its obliteration. Hence its use should be judicious in reproductive age group patients and Shouldice repair if done properly done may reduce this complication and have minimal recurrence rate.

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