

Case Report

A rare case of lumbar hernia following iliac crest bone graft

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Abstract

Introduction: Harvesting bone graft from iliac crest is routine procedure in orthopaedics practice. Lumbar hernia following this procedure is rare. Lumbar hernia is classified as congenital, primary, post traumatic and incisional.

Objective: Reporting herewith a case of right lumbar hernia in 58 years old female occurring 10 years following full thickness iliac crest bone graft.

Conclusion: Iliac crest bone harvest needs to be performed meticulously to prevent postoperative hernia. If occurs, polypropylene mesh repair gives good results.

Keywords: Lumbar hernia; iliac crest bone graft

1. Introduction

Lumbar hernia itself is a rare entity. Approximately 300 cases are reported in literature till date.¹ Cause of lumbar hernia is usually attributed to congenital muscular weakness or acquired as mainly post surgical. Post renal surgery lumbar hernia are common, while post iliac crest bone graft harvesting lumbar hernia are known but rarely seen. Oldfield in 1945 reported first case.² Herewith; we report a successful repair of lumbar hernia through iliac bone defect following iliac crest bone graft.

2. Case report

A 58 years old, obese female patient came to surgical OPD with swelling over right lumbar region since one year associated with discomfort and dragging pain while standing. The swelling was apparent on sitting (Fig.1) and standing and disappearing on lying on left side. There was no history of vomiting, distension, constipation or severe pain.

Patient gave history of bone graft harvesting from right iliac crest in 1999. Patient gave history of hypertension taking treatment regularly. Scar mark was visualised over right lumbar region overlying the right iliac crest. On standing, a single swelling of size 12cmX10cm was apparent in right lumbar region with expansile impulse on cough. The swelling reduced slowly on lying down in left lateral position with taxis. Distinct round defect of 5cm diameter was felt in right iliac crest, approx. 5cm behind the anterior superior iliac spine. The presence of gurgling and peristaltic sounds indicated bowel content. Clinical diagnosis of uncomplicated right postoperative lumbar hernia was made. X-ray pelvis showed distinct defect in right iliac crest. [Fig.2] Ultrasonography confirmed presence of bowel loops in sac. Decision was taken to

intervene. Intraoperatively, transverse incision was taken over the right lumbar region over the defect (Fig.3). A sac was found (Fig.4) herniating through the defect in iliac crest containing loops of ileum, caecum and appendix (Fig.5) in the form of sliding hernia. Contents were reduced; redundant sac was excised and closed with cover of surrounding fibrous fascia. The defect was covered by putting polypropylene mesh (Fig.6) by fixing it to the periosteum and fibrous rim. Closure was done with placement of suction drain. Post operative period was uneventful. Sutures were removed on tenth postoperative day. Patient is now doing well after one year.

3. Discussion

Lumbar hernia can occur from anywhere within lumbar region – which is bounded superiorly by inferior border of 12th rib, inferiorly by iliac crest, medially by lumbar spinous process, muscles and laterally by external oblique muscle.¹ Out of this region, lumbar herniation is more common through superior lumbar triangle of Graynfeldt- Lesgaft³ (An inverted triangle bounded by 12th rib, erector spinae and posterior border of internal oblique muscle). Next frequent site for lumbar herniation is through inferior lumbar triangle of Petit (bounded by iliac crest, posterior border of external oblique muscle and anterior border of latissimus dorsi muscle).⁴ Lumbar hernia is rare entity compared to ventral abdominal wall hernia. Approximately 300 cases are reported in past 300 years.¹ Lumbar hernia are classified as congenital (20%) or acquired (80%). Fifty five percent of acquired lumbar hernia are primary while 25% are due to trauma, post surgery (incisional) or inflammation.^{3,4} Lumbar hernia following iliac crest bone graft is rare. The iliac crest is common site for autogenous bone graft harvest. These grafts are usually of partial thickness preserving either table, more commonly inner table. Full thickness grafts are associated with possibility of incisional hernia as first described by Oldfield (1945), Lewin Bradley (1949) and Bossworth (1955). In fact, due to use of proper technique, the incidence of hernia is not common. These hernia, however gradually increase in size and become symptomatic and cosmetically disfiguring. As the hernia enlarges, corrective surgical procedure becomes increasingly more difficult and complicated. For these reasons most lumbar hernia should undergo surgical repair at the time of discovery.¹ Treatment of lumbar hernia following iliac crest graft has evolved from anatomical repair (Oldfield 1945) to polypropylene mesh repair.² Anatomical repair includes advancement of various surrounding tissue viz. fascial flaps or tissue flaps. Prosthetic repair started with Marlex mesh is now standardized to polypropylene mesh. Post iliac crest graft herniation can be prevented by avoiding full thickness graft. Preservation of inner table and iliac crest reduces the incidence. If full thickness graft is needed, the small defect must be closed primarily with careful muscle, tendon and periosteal approximation and larger defects must be closed with polypropylene mesh.⁵

4. Conclusion

Iliac crest bone harvest needs to be performed meticulously to prevent postoperative hernia. If occurs, polypropylene mesh repair gives good results.

References

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Fig.1 Right lumbar hernia visible on sitting



Fig.2 X Ray pelvis showing defect in ilium



Fig.3 Hernial defect overlying iliac crest



Fig.4 The hernial sac



Fig.5 Contents- Ileum, caecum & appendix



Fig.6 Securing mesh over the defect