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## PRIMARY LUMBAR HERNIA IN AN ELDERLY WOMAN: A CASE REPORT AND REVIEW OF LITERATURE

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### PRIMARY LUMBAR HERNIA IN AN ELDERLY WOMAN: CASE REPORT

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#### SUMMARY

**Lumbar hernia is a rare posterior abdominal wall defect with fewer than 300 cases reported in literature. It accounts for less than 1.5% of total hernia incidence. Herniation is mainly through the inferior lumbar triangle (Petit's hernia) or through the superior lumbar triangle (Grynfeltt's triangle); with both these anatomical boundaries accounting for 95% of lumbar hernias. Lumbar hernias are classified as either congenital (20%) or acquired (80%), and the typical presentation is a patient with a protruding bulge in the back with a slow growth. Our patient was a 70-year-old woman who presented at the surgical outpatient department with a swelling on the right flank for two years. She revealed no known cause of the swelling that was progressively increasing in size, with a dull pain. Physical examination and ultrasonography revealed a defect in the posterolateral abdominal wall. Surgical dissection revealed a large hernial sac, which contained retro-peritoneal fat, protruding through a 3-4 centimetres defect in the transversalis fascia lining the floor of the superior lumbar triangle. The hernia sac was reduced and the defect closed. There was no recurrence four months post-operative. Lumbar hernias are rare, but a good history and physical examination is important to rule out most of the differential diagnoses. Early surgical management is recommended but the surgical approach should be individualised.**

#### INTRODUCTION

Lumbar hernias are a rare form of hernias. It is the protrusion of intra-abdominal contents through a weakness in the posterior abdominal wall. Lumbar hernia was first described by Barbette in 1672 and Garageot published a case for the first time in 1731. Since then, only about 300 cases have been reported(1). General surgeons would get only one opportunity to repair a lumbar hernia during their lifetime(2). The lumbar region is an area bounded superiorly by the 12th rib, inferiorly by the iliac crest, medially by the erector spinae muscles, and laterally by the external oblique muscle. This area contains two well-defined areas of weakness; the inferior lumbar triangle (Petit's triangle), and the superior lumbar triangle (Grynfeltt-Lesshat triangle)(1,3,4,5). The inferior lumbar triangle is bounded medially by the latissimus dorsi muscle, laterally by the external abdominal oblique muscle, and inferiorly by the iliac crest. The internal abdominal oblique muscle forms the floor of the inferior lumbar triangle. The superior lumbar triangle is defined medially by the erector spinae muscle group, laterally by the internal oblique muscle, and superiorly by the 12th rib. The

floor of this triangle is formed by the openeosis of the transversalis muscle, and the latissimus dorsi muscle forms the roof(3).

The Grynfeltt's hernia was there well-defined areas of weakness: immediately below by the external oblique muscle, in the area of fascial penetration of the 12th dorsal intercosta neuro-vascular pedicle, and between the inferior edge of the rib and the ligament of Henle(1,3,6). Predisposition to herniation in this space is extremely variable and depends on several anatomical factors(1).

There are different classifications of the lumbar hernias apart from the site of their occurrence. They can be congenital or acquired. Acquired hernias can be primary/spontaneous and secondary. Secondary lumbar hernias can occur due to trauma, infections or following surgical interventions. Primary spontaneous hernias are the most rare form of hernia among all the presentations(5). Lumbar hernias represent 1.5% - 2% of the abdominal hernias(7,8), with Grynfeltt's hernia being the more frequent(1,5, 8,9)

#### CASE REPORT

A 70-year-old woman was referred to the surgical

outpatient department of Gulu Regional Referral Hospital with an initial diagnosis of a lipoma. She has been a peasant farmer for many years. Two years ago, she noticed this progressively enlarging right sided postero-lateral mass. The mass was of sudden onset with no previous history of trauma or right flank surgery. She complained of mild, dull, pain over the swelling, which is aggravated by coughing and physical exertion. She had normal bowel and urinary habits.

On physical examination, she had a 12cm wide, oval, soft, mobile, non-tender swelling in the right postero-lateral abdominal wall just below the rib cage. The swelling had a palpable cough impulse and was reducible on manipulation. Ultrasonography revealed a defect in the postero-lateral abdominal wall. With a diagnosis of a primary superior lumbar hernia,

elective surgery was recommended.

After infiltration with a local anaesthetic and the patient lying in a left lateral position, a transverse incision was made over the swelling just below the 12th rib. Dissection through the subcutaneous tissue and the latissimusdorsi muscle beneath it revealed a large hernial sac protruding through a 3-4 cm defect in the transversalis fascia lining the floor of the superior lumbar triangle. The hernia sac contained retro-peritoneal fat which was completely dissected from its limits and reduced. The defect in the fascia was closed and the edges of the superior triangle approximated with interrupted nylon 0 sutures. The wound was closed and a pressure dressing applied. There were no peri-operative complications, and the patient was discharged on the second post-operative day. Four months post-operatively she had no recurrence.

**Figure 1**

*Intraoperative picture showing the hernia sac protruding through the hernia ring*



**Figure 2**

*Intraoperative picture showing a reduction of the hernia sac and correction of hernia ring*



## DISCUSSION

Lumbar hernias are a rare disease with approximately 300 cases reported in the literature to date. Lumbar hernia presents as a mass with or without other symptoms, which include varying degrees of lower back pain associated with movement over the site of the defect. Symptoms of bowel obstruction occur in 25% of cases with a 10% chance of strangulation. Where the contents are renal, patients may present with urinary symptoms such as hematuria, oliguria, and abdominal colic. Other rare manifestations reported in the literature are pelvic mass, retro-peritoneal and gluteal abscess. Examination reveals a soft lumbar mass, which is reducible on manipulation in most cases. The swelling increases in size with straining or a standard valsalvamanuever. There are no systems that are pathognomic of these hernias. Imaging with ultrasound and CT scan help to differentiate an irreducible hernia from other lumbar swellings like lipoma, fibroma, hematoma, abscesses, intra-abdominal/retro-peritoneal tumours and panniculitis. Although not universally available like in our case, CT scan apart from confirming the diagnosis is useful in defining the parietal defect size, hernia content and muscular trophism, which issues have a bearing on the treatment.

Early surgical correction is the standard treatment for a lumbar hernia in medically fit patients. This is due to the fact that hernias can become strangulated and deteriorates the clinical state of the patient. The goal is to reduce the hernia and do a tension free repair of the abdominal wall defect that is able to withstand the stress of daily physical activity. The hernia is approached through an open or laparoscopic technique (trans-abdominal or extra-peritoneal) and the defect is repaired with simple closure, muscular flaps or meshes. Current trends favour laparoscopic and use of meshes, which demand equipment and expertise. These may not be available in resource poor facilities. The simple closure technique that we used is discouraged because of a high recurrence rate resulting from difficulty in achieving a tension free

repair, owing to the size of the defects and quality of tissue around the defect (muscle atrophy). However despite the multiple techniques described in the literature there is no consensus on the appropriate approach and simple closure may be the only option available in many settings. Lumbar hernia is a rare condition and many clinicians miss it because of lack of familiarity. As such, there should always be clinical suspicion of lumbar hernia in cases of lumbar mass. In resource limited setting, there is no need to refer patients for laparoscopic surgery for lumbar hernia; this is because open surgery is a good option for lumbar hernia of any size.

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## REFERENCES:

1. Moreno-Egea, A., Baena, E.G., Calle, M.C., *et al.* Controversies in the current management of lumbar hernias. *Arch. Surg.* 2007;142:82-88.
2. Hafner, C., Wylie, Jr. J. and Brush, B.E. Petit's lumbar hernia: repair with Marlex mesh. *Arch. Surg.* 1963; 86:180-6.
3. Cesar, D., Valadao, M. and Murrahe, R.J. Grynfelt hernia: case report and literature review, *Hernia*: 16. 2012; 107-111.
4. Tronco-Alves, G.R. and de-Andrade-Silva, R.V. Missel-Correa *J. Gastroenterol.* 2012; 25 (64).
5. Walgamage, T.B., Ramesh, B.S and Alsawafi, Y. Case report and review of lumbar hernia. *Inter. J. of Surgery Case Reports* 2015;230-232.
6. Loukas, M., El-Zammar, D., Shoja, M.M., *et al.*, The clinical anatomy of the triangle of Grynfelt. *Hernia*. 123: 2008; 2272-32.
7. Patnaik S, Nayak TK, Patro S. Lumbar hernia: a case report and review of literature. *Int. J. Sci. Study.* 2015.
8. Gonzalez-Rodríguez, F.J., Gomez, A.P., Lopez, M., *et al.*, Hernia de Grynfelt. Discusion y manejo, Rev. Hispanoam. *Hernia*: 22014; 63-66.
9. Skrekas, G., Staflya, V.G. and Papalois, V.E. A Grymfelt hernia report of a case. *Hernia*: 92005; 188-191