

THE PRESENCE OF TEAR DROP PSOAS MORPHOLOGY PREDISPOSES PATIENTS FOR POST OPERATIVE PSOAS MUSCLE WEAKNESS AND PAIN DURING OBLIQUE LATERAL LUMBAR INTERBODY FUSION(OLIF)

MOHD HISAM MUHAMAD ARIFFIN¹, AZMI BAHARUDIN¹, KAMALNIZAT IBRAHIM¹

¹ FAKULTI PERUBATAN, UNIVERSITI KEBANGSAAN MALAYSIA, KUALA LUMPUR, MALAYSIA

Background

OLIF was developed to avoid the complications associated with psoas muscle disruptions and injury to lumbosacral plexus during transpsoas interbody fusion. Despite neuromonitoring, transpsoas approach neurologic complications ranges from 13.8-39.5%. The teardrop psoas morphology at L4/5 is associated with anterior migration of the lumbar plexus and posterolateral migration of iliac vasculature, increasing the risk of neurovascular injury in lateral approach.

Objective

We hypothesise this teardrop psoas morphology is associated with higher risk of vascular injury, psoas muscle dysfunction or neurologic injury post operatively even in OLIF.

Methods

Between June 2016-December 2017, 43 patients underwent OLIF for lumbar degenerative disc disease. We exclude adjacent segment disease, adult onset scoliosis and when MRI wasn't done at our centre. MRI of 28 patients were analysed for the presence of teardrop psoas. A standard microsurgical mini-open oblique lateral retroperitoneal approach, directs visualisation anterior border of psoas and dissection before placing tubular retractors and disc preparations for inter body fusion was performed. Intra operative neuromonitoring was normal in every patient.

Results

We identified 6/28(21.4%) teardrop psoas morphology at L4/5. 50% patients with tear drop psoas developed post operative psoas dysfunction or neurologic injury in contrast to only 9% (2/22) when its absent (p=0.05). No cases of vascular injury was encountered.

Conclusion

In the presence of teardrop shaped psoas, the incidence of post operative psoas dysfunction or neurologic injury was significantly higher.