

The peri-articular muscle envelope shows atrophy after iliopsoas tenotomy.

Abstract

Background

Iliopsoas tenotomy is commonly used to address refractive groin pain resulting from iliopsoas tendinopathy. However, consensus and high-level research on its effectiveness are lacking, with concerns about poor outcomes and complications. Little is known of the effects of iliopsoas tenotomy on the peri-articular muscle envelope of the hip. As the iliopsoas loses its function as the most important hip flexor, the rectus femoris takes over its function, which makes the rectus prone to tendinopathy.

Methods

A retrospective review of patients (n=17) undergoing iliopsoas tenotomy between January 2016 and January 2021 was conducted. Pelvic MRI scans were evaluated for muscle quality and volume using a Quartile classification system and cross-sectional area (CSA) measurements. Reliability tests determined the most consistent reference points. Statistical analyses assessed changes between ipsilateral and contralateral sides.

Results

Following iliopsoas tenotomy, significant reduced cross sectional area was seen in the psoas, iliacus, gluteus minimus, gluteus maximus, rectus femoris, piriformis, obturator internus and obturator externus. Significant increased fatty degeneration was seen in the psoas, iliacus gluteus minimus, tensor fascia latae, piriformis, obturator internus and obturator externus. The gluteus medius was the only muscle where no difference was seen in the cross sectional area or the fatty degeneration. Fifteen patients (88%) presented with rectus tendinopathy and 8 of these patients had a surgical debridement of the rectus femoris.

Conclusion

Our findings reveal that patients with persistent groin pain following iliopsoas tenotomy exhibit changes in the peri-articular muscle envelope, displaying atrophy or fatty degeneration in all muscles except the gluteus medius. Awareness of potential risks is crucial when contemplating iliopsoas tenotomy. Persistent groin pain after iliopsoas tenotomy may be linked to secondary rectus femoris tendinopathy. Caution is recommended in the consideration of iliopsoas tenotomy for patients with pre-existing iliopsoas tendinopathy.