

The posterior ridge of the greater tuberosity of the humerus: a suitable landmark for the posterior approach to the shoulder joint?

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BACKGROUND

The purpose of this study was to evaluate the posterior ridge of the greater tuberosity, a palpable prominence during surgery, as a landmark for the posterior approach to the glenohumeral joint.

METHODS

Twenty-five human cadaveric shoulders were dissected. In 5 cases, a full-thickness rotator cuff tear was present. The posterior surgical anatomy was defined, and the distance from the ridge to the interval between the infraspinatus (IS) and teres minor (TM) muscle, the distance from the ridge to the inferior border of the glenoid (IBG), and the distance between the IS-TM interval and the IBG were determined.

RESULTS

In all specimens, a prominent ridge on the posterior greater tuberosity lateral to the articular margin could be identified. The IS-TM interval was located, on average, 3 mm proximal to this ridge. The IS-TM interval corresponded to a point 5 mm proximal to the IBG. In all shoulders, the ridge was located, on average, 8 mm proximal to the IBG. The plane of the IS-TM interval showed a vertically oblique direction.

CONCLUSION

The posterior ridge of the greater tuberosity is a suitable landmark to locate the internervous plane between the IS and TM and should not be crossed distally. Unlike other landmarks, the ridge moves with the humeral head, making it less dependent on the patient's size, sex, and arm position and the quality of the rotator cuff. The ridge is always located proximal to the insertion of the TM and IBG.

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