Letter to the editor

Comment on: “Radial head replacement in adults with recent fractures” published by N. Bonnevialle et al. in Orthopaedics & Traumatology: Surgery & Research 2016;102(1 Suppl.):S69–79

We read with great interest the article by Bonnevialle [1], “Radial head replacement in adults with recent fractures” which appeared in the 2016 Feb.

In that review, the author first mentioned “The longest axis (20–23 mm on average) is perpendicular to the radial notch of the ulna in neutral rotation. As a consequence, the annular ligament that encircles the radial head becomes slack when the forearm is in supination”. However, the illustration of fig. 1 mentioned “In supination and pronation, the longest diameter of the radial head aligns with the radial notch of the ulna, the annular ligament is under tension, and the joint space is closed”. So, I am confused whether the annular ligament is slack or under tension in supination, and what are the real effects of pronation and supination on the annular ligament.

Martin [2] confirmed that when the forearm bones are in the mid-prone position, neither the anterior nor the posterior parts of the annular ligament are under tension. In full pronation, the articular prominence of the radial head is partly brought out of the radial notch and becomes pressed against the posterior part of the annular ligament. In addition, just below the prominence, the neck of the radius is scarcely sloped at all, so that also is pressed against the posterior part of the annular ligament, especially the ‘deep band’. The opposite side of the radial head and neck, now in contact with the anterior part of the annular ligament, is quite differently shaped; the rim of the head is narrow, and the neck below it slopes markedly, consequently the anterior part of the ligament is not put under tension. In supination, the reverse conditions are obtained, and the anterior part of the ligament is put under tension whilst the posterior part slackens. By an anatomic investigation, Weiss and Hastings [3] postulated that with pronation the radial head translates anteriorly, placing the posterior annular ligament under tension. With supination the radial head translates posteriorly, placing the anterior portion of the annular ligament under tension.

According to the two articles’ opinion above, the anterior part of the annular ligament is under tension in supination and the posterior part in pronation. These effects depend upon the shape of the head and neck of the radius. So, the description of Bonnevialle may be confusing and misleading.

Disclosure of interest

The authors declare that they have no competing interest.

References


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