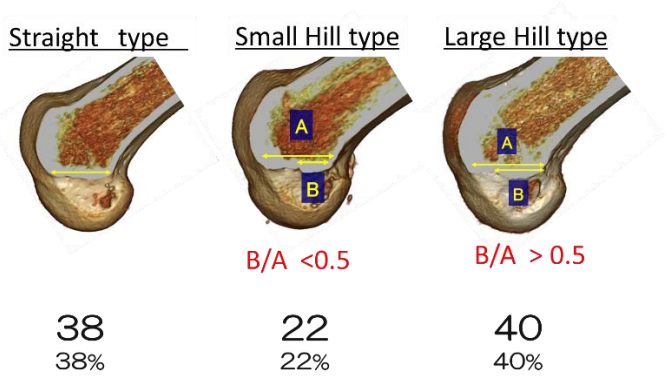
Morphological evaluation of Blumensaat's line in the Quadrant method

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Abstract

Introduction: For evaluation of bone hole position on the femur side after reconstructive surgery for knee anterior cruciate ligament (ACL), it is common to perform Quadrant method reported by Bernard et al. using 3D-CT. Quadrant method is based on Blumensaat's line, but it is reported that the form of Blumensaat's line has variation. We report on the form of Blumensaa's line at 3D-CT photographed after ACL surgery. Subject and method: Patients who underwent ACL reconstruction at our department and related hospitals from April 2014 to August 2016 were 106 cases and 107 knees. The breakdown was 60 males and 46 females. Among them, 99 subjects and 100 knees, under 50 years of age, with no progress of arthropathy change due to existing meniscal lesion etc., were targeted. Shooting 3D-CT within 2 weeks after surgery. According to the Quadrant method, the femoral condyle part was halved along the femoral axis, the intercondylence was confirmed from the inside, and the Blumensaat's line was confirmed. I investigated the variation (1) straight type (ST), (2) small hill type (S), and (3) large hill type (L) which are reported by Iriuchishima et al. Results: In all cases, there were ST 38 cases (38%), S22 cases (22%), L 40 cases (40%). Conclusion: Iriuchishima et al. Investigated the shape of Blumensaat's line at cadaver and reported that variation exists in addition to straight type. In this case we conducted a similar survey using 3D-CT in cases under 50 years of age, but it was almost the same rate. When using the Quadrant method Blumensaat 's line has many forms other than the staraight type, so it was considered necessary to evaluate the femoral bone hole carefully.



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3. Iriuchishoima T(2016) Blumensaat's line is not always straight : morphological variations of the alteral wall of the femoral intercondylar notch. KSSTA 24 : 2752-2757
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