Response letter regarding the article "Femoropatellar Radiographic Alterations in Cases of Anterior Cruciate Ligament Failure". Rev Bras Ortop 2015;50(1):43–49

Carta resposta referente ao artigo "Alterações radiográficas femoropatelares na insuficiência do ligamento cruzado anterior". Rev Bras Ortop 2015;50(1):43–49

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Anterior Cruciate Ligament (ACL) failure causes biomechanical and kinematic changes in the tibiofemoral joint,[1,2] and may secondarily cause patellofemoral changes.[3] In our study, we analyzed the behavior of three patellofemoral radiographic parameters (patellar height by the Caton-Deschamps index, Merchant patellar congruence angle and Laurin lateral tilt angle of the patella) in knees with isolated chronic ACL failure for > 12 months, comparing them with normal contralateral knees.

Regarding the inclusion criteria of the sample, we emphasize that only patients with isolated chronic ACL injury in one knee were selected (case group, $n = 30$) and normal contralateral knee (control group, $n = 30$). We agree that the presence of previous injury to the medial patellofemoral ligament (MPFL), or previous episode of lateral patellar dislocation, could alter the radiographic indices studied. Thus, as highlighted in Table 1 of our original article,[4] we emphasize that the presence of any previous injuries or changes of any origin, including traumatic, in either knee, except for the isolated ACL injury in one knee, would be an exclusion criterion. For this, we performed clinical history and physical examination of the lower limbs searching for any changes, in addition to the unilateral isolated signs of ACL failure. Magnetic resonance imaging (MRI) has also been analyzed to rule out associated injuries. Thus, patients with previous history of lateral patellar dislocation or signs of MPFL injury were excluded.

The digital radiographs obtained were analyzed by the same examiner, who did not know the purpose of the measurements and study groups. Evaluation by a single blinded evaluator was chosen due to the large number of measurements required for the study (240 measurements on 60 knees) and the social care profile with high demand of our institution. However, we agree that the measurement by more than one evaluator would be ideal and the calculation of inter- and intraobserver correlation coefficients would add statistical value, this being a limitation of our work.

Comparative statistical analysis of the parameter values studied in both groups was performed using the Student's t test, which applies to compare values that have normal distribution, where mean values (mean) and median values are very close. For all groups of values obtained, two normality tests were applied (Kolmogorov-Smirnov and Shapiro-Wilk) and both determined normal distribution of the sample, with mean and median presenting very close values. When evaluating the lateral tilt values of the patella in the case group ($n = 30$), we found an inversion of the Laurin angle (- 2.2° and - 4.8°) in just two knees. We agree that *outlier* values could compromise the assessment of the Student t test, but this would only happen if these values had caused a distortion between mean and median in the sample studied. In our statistical analysis, however, we observed that the inclusion of these values (- 2.2° and - 4.8°) did not cause distortion

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between mean and median in the group of values, that is, it did not alter the normal distribution of the sample, which would validate the use of the Student t test.

Conflicts of Interests
The authors have no conflicts of interests to declare.

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