Reviewer's report

Title: Identical acute fractures of the patella in monozygotic twin gymnasts: A report of two cases.

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This is an interesting report of monozygotic twin gymnasts with identical acute fractures of the patella.

My comments are below.

Major Compulsory Revisions

1. The authors stated “the diagnosis of chronic stress fracture of the patella was deemed unlikely since no symptoms were reported in the months preceding the acute injury described in each case.” It is certain that anterior knee pain usually precede in stress fracture of the patella to some extent. However, there is a report of stress fracture of the patella without previous complaints relating to the knees (Carneiro M et al. The Knee 2006;13:164-6). I doubt that we can discriminate between acute avulsion fracture and a displaced fracture after chronic stress fracture in the case of injuries which result from indirect trauma in competitive athlete with repetitive and intense stress to the quadriceps muscle and patellar tendon. The authors also excluded symptomatic bipartite patella on ground that bipartite patellae are almost always bilateral. And they stated that magnetic resonance imaging demonstrated acute fracture in case 1. They should show the magnetic resonance imaging in the figure. Ad there was no mention of the existence of X-rays of case 1’s Osgood-Schlatter disease. If such film exists, it would be very telling.

2. In this report, the most interesting issue is whether acute fractures of the patella in monozygotic twin gymnasts are simply a matter of chance or that the twins have some genetic susceptibility to patella fractures. In the case of the former, there is little merit to publishing in this journal. The authors stated, “It follows that the genetic composition of these two patients may have placed them at risk of suffering a patella fracture.” However, they showed no evidence of a genetic influence on susceptibility to patella fracture, such as bone mineral density or bone morphology of the patella. The authors should demonstrate some evidence and focus on this issue in the Discussion.

3. In the last paragraph of the Discussion, the authors discussed the management of transverse avulsion fracture of the patella. I believe this paragraph is not essential in this report and should be deleted. In addition, the authors stated “It also illustrates the need for protection from excessive training regimens in adolescents during the growth phase” in Abstract and repeated in
Conclusion. The authors should explain this idea concretely in the Discussion.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable