

## Letter to the Editor concerning “Femoral neck fracture osteosynthesis by the biplane double-supported screw fixation method (BDSF) reduces the risk of fixation failure: clinical outcomes in 207 patients” by Filipov O, Sommer C et al (2017). Arch Orthop Trauma Surg. Apr 8. (Epub ahead of print)

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Dear Editor,

We read the article by Filipov et al. [1] with great interest. We would like to compliment the authors for their work. As we know, the fractures of femoral neck are very common, their accompanying complications are more frequent and important. This research aims at evaluating the outcomes of a novel method of biplane double-supported screw fixation (BDSF) and concludes that the novel BDSF method enhances femoral neck fracture fixation strength, reveals excellent clinical outcomes and is a valid alternative to other treatment methods. Although this study has greatly improved our knowledge, we do have some concerns about the study.

First, the reverse triangle screw fixation has been widely used in femoral neck fractures for many years and it has been identified as a perfect method to treat this kind of patients. Femoral neck fracture was modeled by SolidWorks software for only triangle configuration by Gok et al. [2]. It has been proved that position of the screws determined by the surgeon and screws materials may significantly affect the prognosis of patients. The article mentioned that the most effective component is the distal screw placed at steeper angle and supported on a large area along the distal and posterior cortex of the femoral neck following its spiral anterior curve. The article also mentioned that “the current clinical study reconfirms that the better outcomes following BDSF treatment are due to its

high fixation strength”. However, I still think a comprehensive biomechanical study is necessary to demonstrate that the novel BDSF is better than the traditional reverse triangle screw fixation.

Second, some previous studies have concluded that the screws should not enter the lateral femur below the lesser trochanter to prevent iatrogenic subtrochanteric fracture. Though you did not observe any iatrogenic subtrochanteric fracture after surgery, the average follow-up period was just 29.6 months. It is strongly recommended that additional long-term follow-up studies are needed to further justify its wide use.

Finally, Fig. 5 shows an elderly patient (79-year-old) with distal femoral neck fracture. We do not choose closed reduction and internal fixation for this kind of patients. Please elaborate your indication of closed reduction and internal fixation for femoral neck fracture.

### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no competing interests.

### References

1. Filipov O, Stoffel K, Gueorguiev B, Sommer C (2017) Femoral neck fracture osteosynthesis by the biplane double-supported screw fixation method (BDSF) reduces the risk of fixation failure: clinical outcomes in 207 patients. Arch Orthop Trauma Surg (**epub ahead of print**)
2. Gok K, Inal S, Gok A, Gulbandilar E (2017) Comparison of effects of different screw materials in the triangle fixation of femoral neck fractures. J Mater Sci Mater Med 28(5):81

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