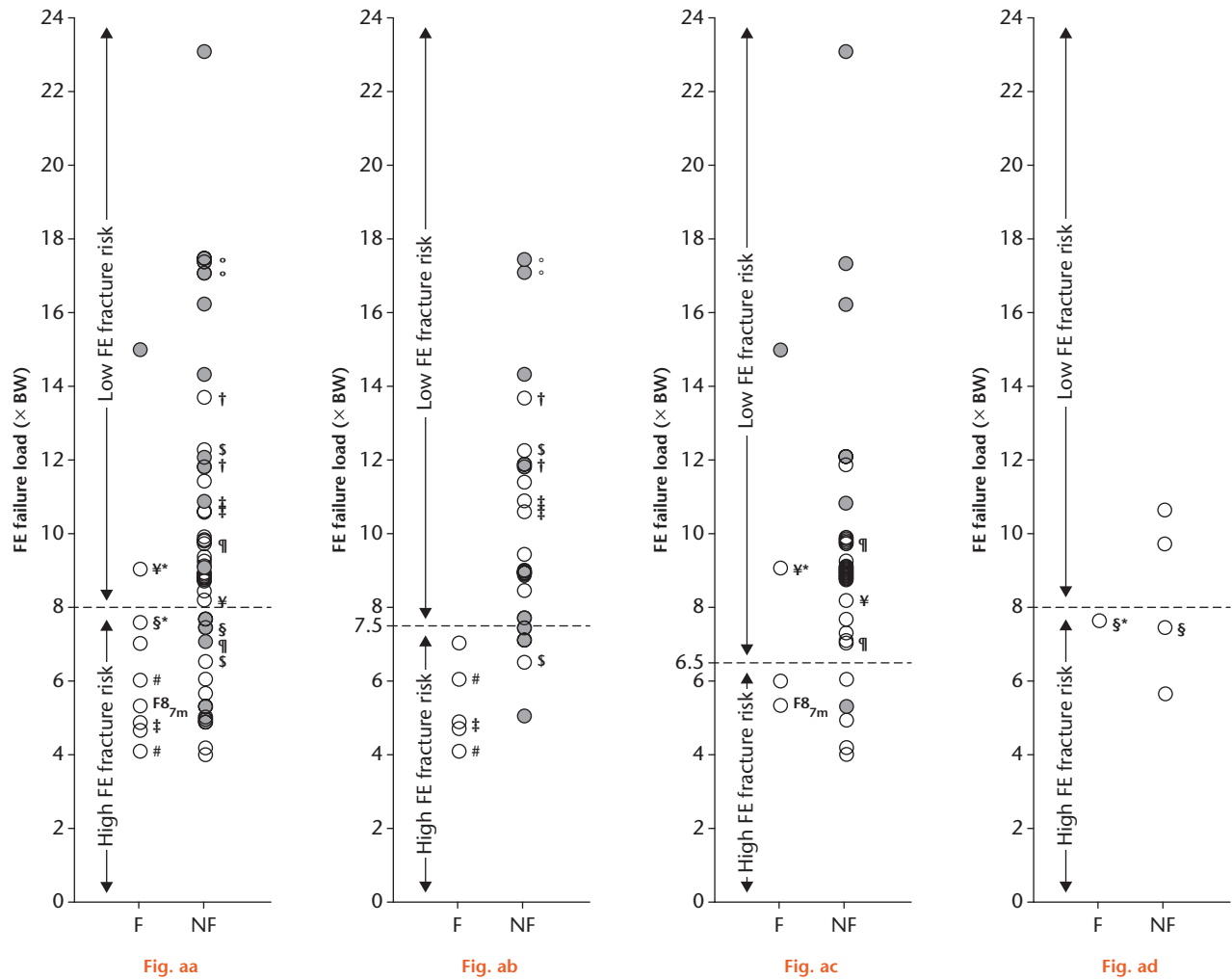


Supplementary material



This figure shows the femoral failure load for patients who did (F) or did not (NF) sustain a femoral fracture during follow-up, corrected for body weight (BW), including the femurs that were affected with blastic metastases, a) in all institutes without considering inter-scanner differences, and in b) institute 1, c) institute 2, and d) institute 3 separately. Femurs with blastic lesions are indicated in grey; femurs with lytic or mixed type lesions are indicated in white. It should be noted that one femur (F8_{7m}) fractured one month after follow-up. The thresholds were used to compare the predictive power of the finite element (FE) model versus experienced clinicians. *Femur fractured during unknown activity; all other symbols (#, +, †, \$, ‡, ¶, ¥, §) indicate paired femurs. Femurs with blastic lesions (grey) often have substantially higher failure loads compared with lytic and mixed lesions (white). This is probably due to the fact that these lesions have a high degree of mineralization that would result in inaccurately strong material properties in the FE model, although blastic lesions are generally thought to lead to decreased structural bone strength. Hence, our current FE model is not (yet) able to calculate femurs with blastic lesions.