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MORTALITY IN INTERTROCHANTERIC FRACTURE OF THE FEMORAL NECK

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The mortality among patients subjected to operation for intertrochanteric fracture of the femoral neck was studied and related to preceding cardiological status.

MATERIAL AND METHOD

During the period 1965–1970, a total of 209 patients with intertrochanteric fracture of the femoral neck were treated in the Århus Municipal Hospital, all by operation (McLaughlin 1947).

Prior to surgery, patients with signs of heart disease were examined by a cardiologist who assessed the operative risk. Even if it were assessed as increased, operation was carried out, as long-lasting traction was believed to be even more dangerous. Premedication with digitalis or diuretics was administered in many cases.

If death or time of death were not apparent from the case notes, inquiries were sent to the national registry.

RESULTS

Out of the 209 patients, 61 were under 70 years of age, 65 were 70–80, and 83 were over 80 years old.

At the end of 1 year 62 of the 209 patients had died.

In 162 of the 209 patients the operative risk had not been believed to be increased. Among them 32 succumbed during the first year.

In the remaining 47 the operative risk was deemed to be increased, and of these 30 died within the first year.

DISCUSSION

An important reason for introducing operative treatment for femoral neck fractures was that this was believed to reduce the mortality, which must therefore be checked constantly.

Evans reported, in 1951, that the mortality ranged from 10 to 40 per cent after conservative treatment and between 10 and 25 per cent after operation. According to Aronsson (1950) the mortality had dropped from 16 to 8 per cent and according to Robey (1956) from 50 to 20 per cent after the introduction of operative treatment. Stören (1956) found a mortality of around 10 per cent among operated as well as among conservatively treated patients. Among operated patients Boettcher & Riese (1970) found a mortality of 18 per cent.

In general, the mortality is stated as the percentage of patients dying in hospital or within the first month. But as demonstrated by Hansen & Neidhardt (1970) there is a considerable additional mortality during the first months. At the end of one year, these authors found that 40 per cent of the patients had died.

Lindholm et al. (1971) reported that deaths among patients with fractures of the femoral neck were by far most often due to heart disease. The present author studied the mortality in cases where preoperative cardiological examination had revealed an increased operative risk and in others where it had not.

CONCLUSION

Among a population group like the one under discussion the mortality is normally rather more than 10 per cent per annum (Danmarks Statistik, Copenhagen 1973).

In the present material it was about 30 per cent within one year.

In three-quarters of the patients, preoperative cardiological examination had not shown an increased operative risk. In this group the mortality during the first year was about 20 per cent. In other words, among the great majority of elderly patients who do not exhibit significant cardiac disease despite their advanced age, the excess mortality following trauma and operation is less than 10 per cent.

Among the remaining one-quarter of the patients, in whom the operative risk was deemed increased, the mortality during the first year was about 60 per cent.

SUMMARY

The mortality during the first year after operation was studied in 209 patients with intertrochanteric fracture of the femoral neck, all treated with osteosynthesis.

The excess mortality due to the fracture and operation proved to be about 20 per cent. Among the great majority of patients who did not have significant cardiac symptoms or signs despite their advanced age, the excess mortality was below 10 per cent. Among patients whose operative risk had been deemed increased due to heart disease, the excess mortality during the first year was about 50 per cent.

REFERENCES

Aronsson, H. (1950) The treatment of intertrochanteric and pertrochanteric fractures. *Acta chir. scand.* **100**, 110–129.

Boettcher, J. & Riese, H. (1970) Die Behandlung der pertrochantaeren Oberschenkelfractur. *Zbl. Chir.* **50**, 1515–1519.

Danmarks Statistik (1973) Ægteskaber, fødte og døde. *Statistisk tabelværk XI*, Copenhagen.

Evans, E. M. (1951) Trochanteric fractures. *J. Bone Jt Surg.* **33**-B, 192–204.

Hansen, H. & Neidhardt, F. O. (1970) Letaliteten ved fraktura colli femoris. *Ugeskr. Læg.* **132**, 1709–1714.

Lindholm, T. S., Puronvarsi, U. & Lindholm, R. (1971) Fractures of the proximal end of the femur with fatal outcome. *Acta chir. scand.* **137**, 778–781.

McLaughlin, H. L. (1947) An adjustable internal fixation element for the hip. *Amer. J. Surg.* **73**, 150–161.

Robey, L. (1956) Intertrochanteric and subtrochanteric fractures. *J. Bone Jt Surg.* **38**-A, 1301–1312.

Stören, G. (1956) On the treatment of pertrochanteric fractures. *Acta chir. scand.* **111**, 333–340.

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