

## PROCEEDINGS OF THE DANISH ORTHOPAEDIC SOCIETY

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### CUBITAL TUNNEL SYNDROME TREATED WITH SIMPLE DECOMPRESSION

*Per B. Thomsen*

A follow-up study (observation time 7 months to 5 years) of 32 decompression operations in 31 patients with cubital tunnel syndrome, treated during a 5-year period, revealed complete recovery in 16 patients, varying improvement in 13 and no improvement in 3 patients.

This method gives results equal to those obtained with the traditional operative methods—anteponition and medial epicondylectomy—i.e., about 75 per cent excellent plus good results. The method is easy and rapid to perform and free of complications.

A case of supracondylar process of the humerus with compression of the ulnar and median nerves, treated with subperiosteal resection of the spur, is discussed.

### AVASCULAR NECROSIS OF THE TROCHLEA OF THE TALUS

*Jørgen Ewald Lorentzen*

On the basis of an analysis of 218 consecutive cases of talar fracture or subtalar dislocation, it could be concluded that a connection exists between the morphology of the talar injury and the incidence of trochlear necrosis. This connection can be explained by the relation of the injury to the anatomical course of the three main vascular supplies of the trochlea. After injuries involving one of the three main channels, the incidence of necrosis is about one in twenty, after injuries involving two main channels it is one in four, and if the injury involves all three main vascular supplies, so that for a time the trochlea is entirely avascular, necrosis will occur in about two-thirds of the cases. Thus, on the basis of our knowledge concerning the vascular supply of the trochlea, it is possible to assess the risk of osteonecrosis according to the morphology of the individual talar injuries.

### LESIONS OF LARGE ARTERIES COMPLICATING FRACTURES AND DISLOCATIONS OF THE LOWER LIMB

*Jørgen Ewald Lorentzen*

Sixteen patients with lesions of large arteries complicating fractures or dislocations of the lower limbs are presented. Only four of the patients were brought to vascular surgical treatment within 6 hours after the injury and good end-results without residual disability were obtained in all four patients. Amputation proved necessary in seven of the 12 patients who received vascular surgical treatment more than 6 hours after the injury and two patients developed permanent disabilities in the form of muscular necroses and pareses. Thus, only three of the patients in whom vascular surgical treatment was instituted at a late stage did not develop permanent sequelae. The explanations for the late treatment are defective primary diagnosis and prolonged transport of the patients. On the basis of these findings, early arteriography or transfer of patients suspected of having arterial lesions is recommended or, possibly, the summoning of a vascular surgical team could be considered.

### AMPUTATIONS IN A DANISH COUNTY: CHANGES OVER 5 YEARS IN INCIDENCE AND LEVEL

*Steen Christensen*

Following a previous investigation of amputations in a Danish county (1961-1971) a new study (1975/76) showed a slight increase in incidence, from 14.9 to 18.2 per 100,000 inhabitants per year. It is now possible to preserve the knee in 50 per cent of the diabetic patients and in 23 per cent of the arteriosclerotics.

### STABILITY OF THE HIP IN CHILDREN EVALUATED FROM A SINGLE RADIOGRAPH

*J. Reimers*

Stability of the hip can be evaluated on an antero-posterior radiograph of the pelvis, by determining the percentage migration of the femoral head beyond the acetabular rim. Out of 32 Danish orthopaedic departments, four employ a single radiograph, the others use two or more positions. Sixty-six deformed hips in patients with cerebral palsy were studied in neutral and in maximum inward rotation. A correlation coefficient of  $r = 0.89$  was obtained, and the differences in percentage migration were small enough to be ignored. Since even a severely subluxated hip will become reduced on abduction of the leg, a single knees-together antero-posterior radiograph suffices.

### EXPERIENCE WITH THE STANMORE TOTAL HIP REPLACEMENT

*N. J. Holm, N. Mossing & K. Jansen*

A total of 205 operated hips were studied after a follow-up time of from 1 to 5 years. The mortality was 2 per cent, deep infection rate 1 per cent and luxation rate 5 per cent. 177 patients were examined according to Merle d'Aubigné and showed considerable gain in all three scores, most markedly in the pain rating. There were 25 cases of slight complications and 20 cases of serious complications; 10 patients required various forms of revision.

### MALACIA OF THE OS LUNATUM TREATED WITH SHORTENING OSTEOTOMY OF THE RADIUS

*J. Ovesen*

In the period 1970-1976, seven patients—six men and one woman—have been treated for malacia of the os lunatum. In all cases the treatment was osteotomy to reduce the length of the radius by 5 mm. The average age of the patients was 37 years and the average observation time was 34 months.

The preoperative symptoms of all patients were tenderness at palpation, pain on lifting and on moving. Four patients had pain at rest. Radiological examination showed a minus variance of the ulna in four patients.

Postoperative control revealed one patient with tenderness at palpation and pain on moving. The remaining six patients were free from pain. Radiological examination showed the osseous structure of the os lunatum to be unchanged in five patients, in progression in one patient, and in regression in one patient.

### INTRACARDIAL ARTERIOGRAPHIC STUDY IN AMPUTATED RABBITS

*C. Hansen-Leth & A. Karle*

The vascular changes in rabbits after amputation were studied *in vivo* with arteriography after intracardial injection of contrast.

In the amputated extremity an initial vasoconstriction of the arteries was found. Thereafter changes were observed in arteries and veins, both in the operated and contralateral extremities, depending on the level of amputation and the manner in which the stump was closed. When no myoplasty was carried out arteriovenous shunts were formed in the stump, caused by the inactivity of the muscles. Myoplasty counteracts muscle inactivity and the development of arteriovenous shunts and so improves the muscle blood flow in the stump.

### PRELIMINARY EXPERIENCE WITH ARTHROSCOPY OF THE KNEE JOINT USING THE "DYONICS NEEDLESCOPE"

*E. Berntsen & V. Damholt*

At the Department of Orthopaedic Surgery, Odense Hospital, arthroscopy of 86 knee joints using the "Dyonics Needlescope" (standard model) was performed over a 4-month period. The patients were predominantly 20- to 40-year-old males. An antero-lateral approach under general anaesthesia was routinely employed. No complications were observed. In 55 knees with primary indication for surgery, the clinical diagnosis was correct in 39 cases, whereas arthroscopy yielded 49 correct preoperative diagnoses.

In 31 knees without primary indication for surgery (mean observation period 6 months), arthroscopy revealed 10 cases suitable for operative treatment, while in 21 knees the diagnosis was confirmed, supplemented or corrected.

### RESECTION OF THE CAPITULUM ULNAE IN TRAUMATIC LESIONS OF THE WRIST

*I. Moulvad & J. Sommer*

In the Department of Orthopaedic Surgery, Århus County Hospital, 11 wrists in 10 patients with traumatic caput ulnae syndrome were treated with resection of the distal end of the ulna during the period 1972 to 1976. Seven out of a total of 954 patients (0.8 per cent) were operated because of fractures of the distal end of the radius.

Preoperatively special attention was given to pain on rotation, reduction of strength, and radiological changes. The interval between the trauma and surgery was approximately 8 months. At the follow-up, an average of 2.1 years after the operation, special consideration

was given to working capacity and residual pain. Seven patients had improved, one was unchanged, and three were worse. Thus, the results were not as favourable as is usual for this operation in rheumatoid arthritis.

#### THE OSTEOCLASTOMA. AN EVALUATION OF MALIGNANCY IN RELATION TO MICROSCOPIC FINDINGS

*T. Schiødt, I. Dissing, J. Heerfordt & O. Sneppen*

A 10-year series of bone tumours from "Rigshospitalet" and "Radiumstationen", Copenhagen, contained 12 osteoclastomas, the malignancy of which was graded by Jaffe's method. Two cases were classified as grade I, five as grade II and five as grade III. Clinical follow-up showed that four patients had died from their tumours, one died in an accident—presumably with recurrent tumour, while seven were alive, six of whom showed no clinical recurrence. Apparently the correlation between degree of malignancy and clinical course was quite good, but the material is too small for reliable conclusions. The general attitude in the literature to malignancy grading is reserved, and any case of osteoclastoma should be considered potentially malignant.

#### TECHNETIUM SCINTIGRAPHY OF INTRACAPSULAR FRACTURES OF THE FEMORAL NECK

*D. Zdravkovic, A. B. Christensen, H. Erichsen, O. Hartling & S. P. Nielsen*

A prospective investigation of 25 patients with intracapsular fractures of the femoral neck was carried out with special attention to the early diagnosis of necrosis of the femoral head. Technetium scintigrams were made 14 days, 3, 6, and 12 months after the fracture. The results showed that patients with necrosis of the femoral head had increased activity over the caput, but the difference was not statistically significant.

#### CHONDROSARCOMA: A PROGNOSTIC EVALUATION

*I. Dissing, J. Heerfordt, T. Schiødt & O. Sneppen*

The treatment of 19 patients with histologically proven chondrosarcomas was: amputation in 8, local excision in 7 and X-ray treatment in 3 cases. Thirteen patients survived more than 2 years, eight more than 5 years and two more than 10 years. Six developed local recurrences, four of them after excisions and two after subtotal hemipelvectomies. Four patients developed pulmonary metastases.

Chondrosarcoma runs a slow course and

shows a great tendency to local recurrence and late pulmonary spread. The histological diagnosis is very difficult and discrepancies between histological picture and clinical course are found. Surgery is the only treatment.

#### OSTEOGENIC SARCOMA: A PROGNOSTIC EVALUATION

*I. Dissing, J. Heerfordt, T. Schiødt & O. Sneppen*

The treatment of 49 patients with histologically confirmed osteosarcomas was: amputation in 42 and X-ray treatment in 6 cases. Twenty-two patients survived more than 2 years and 13 more than 5 years. Twenty-six patients developed pulmonary metastases, 15 within 6 months. Seventeen of the 26 patients died within 6 months after diagnosis of the metastases. One patient lived 4 years after pulmonary resection, without tumour. Three developed local recurrences, all after subtotal hemipelvectomies.

Factors of importance for prognosis are: sex, age, length of history, histological type and location. No patient received chemotherapy after the operation.

#### SPONTANEOUS REGRESSION IN A CASE OF MALIGNANT PRIMARY BONE TUMOUR

*J. Heerfordt, I. Dissing, T. Schiødt & O. Sneppen*

In 1971, a 36-year-old male presented with extensive pelvic destruction. Biopsy showed benign chondroblastoma. This was in disagreement with the clinical and radiographic findings. Repeated biopsy showed—as did recent re-evaluation—a highly differentiated chondroblastic osteosarcoma or a malignant transformation in a benign chondroblastoma. The lesion was inoperable, and neither radiation nor chemotherapy was given. Symptoms and radiographic changes progressed until 1973, then they regressed. By 1975—and till now—no symptoms remain and radiographies show healing with sclerosis. No metastatic spread was noted. In the literature there are a small number of similar cases of possible spontaneous regression of malignant primary bone tumours.

#### SLIDING SCREW-PLATE IN THE TREATMENT OF TROCHANTERIC FRACTURES

*J. Steen Jensen, N. Mossing & E. Tøndevold*

Technical complications such as penetration, breakage, or bending of implants are encountered in 15–25 per cent of unstable trochanteric fractures.

A series of 45 patients treated by the sliding screw-plate described by Clawson is reviewed.

25 fractures united in the postoperative posi-

tion, while telescoping of the implant was encountered in 18 cases leading to bony support and stable weight transmission over the fracture line. Penetration of the screw occurred in only two patients but in neither case was re-operation indicated.

In conclusion the sliding screw-plate is recommended in the treatment of unstable trochanteric fractures, as it permits early weight-bearing and technical errors are not encountered.