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EDITOR: ARNT JAKOBSEN

SYNOVECTOMY IN RHEUMATOID ARTHRITIS

Jens Teigland
Oslo Sanitetsforening Rheumatism Hospital, Oslo

The modern concept of systematic synovectomy in rheumatoid arthritis was initiated by Vainio in 1951. The initial optimism has persisted in some clinics, whereas others have expressed doubts regarding the long-term results.

After 5 years or more, there seems to be freedom from pain in about 80–90 per cent of cases. Recurrence of synovitis occurs in 20–30 per cent. The destructive process is stopped, or retarded. A reduced frequency of recurrence is seen after operative techniques permitting maximal radicality of synovectomy. Synovectomy in juvenile arthritis can normalize the disturbances of growth in the actual joint.

In this hospital synovectomies are performed in all joints of the upper and lower extremities, and are carried out as totally as is technically possible.

SYNOVECTOMY OF THE ANKLE JOINT

Jan A. Pahle
Oslo Sanitetsforening Rheumatism Hospital, Oslo

Sixty-three cases of synovectomy of the ankle joint are reported. Eleven had juvenile arthritis, 50 had seropositive rheumatoid arthritis and two had psoriasis. Their ages ranged from 7–66 years.

An anterior midline, and two curved incisions behind the lateral and medial malleoli, with partial transection of the ligaments, were used. In 23 cases postoperative immobilisation for 3 weeks in a plaster splint was used; in 40 cases active movements were started immediately. Partial weight-bearing was permitted after 3 weeks.

Three years after the operation 46 patients are free from pain and swelling, whereas 10 have tolerable pain. Of the remaining seven, three have subsequently had an arthrodesis performed and one an arthroplasty. Improved stability was obtained in 21 of the 38 cases with preoperative instability. In 17 patients the range of motion was slightly reduced, in 7 slightly increased.

In the same period 21 primary ankle arthrodeses were performed. These were triplearthrodeses if affection of the subtalar joint was present.

ARTHROPLASTY OF THE ANKLE JOINT

Jan A. Pahle
Oslo Sanitetsforening Rheumatism Hospital, Oslo

Total replacement arthroplasty of the ankle joint *ad modum* Thompson has been performed with satisfactory preliminary results in seven cases since 1975. All had pain on weight-bearing, instability including "anterior drawer sign", and grade III–IV destruction radiologically.

Postoperatively all are pain-free with good stability, which the side flanges of the tibial prosthesis seem to contribute to. The average postoperative dorsiflexion is 10°, and plantarflexion 20°. Correct alignment of the prosthesis has been made technically easier after a slight modification of the original procedure. Active exercises are started immediately, and partial weight-bearing is allowed after 2 weeks.

Arthrodesis of the ankle joint has not been performed in the last year. If arthrodesis of the subtalar joint is indicated, this should be done prior to the insertion of the ankle prosthesis.

AMYLOIDOSIS IN RHEUMATOID ARTHRITIS

Gunnar Husby
Oslo Sanitetsforening Rheumatism Hospital, Oslo

A survey on amyloidosis in rheumatoid arthritis is given. Rheumatoid arthritis is an important primary disease predisposing to secondary amyloidosis, as 5 per cent of the patients get this complication.

The major protein AA of secondary amyloid fibrils is of a non-immunoglobulin nature. A serum protein SAA related to the amyloid pro-

tein AA is found in higher concentrations in diseases prone to secondary amyloidosis, including rheumatoid arthritis. However, SAA is also increased in conditions without a predisposition to amyloidosis; quantitation of SAA can therefore not be used in the diagnosis of "risk", or early cases of amyloidosis.

Amyloidosis is a serious complication of rheumatoid arthritis. However, in many cases the prognosis seems to be better than thought previously. Such patients deserve the same, active therapeutic attitude as other rheumatoid patients.

HOFFA'S DISEASE

Paul Lereim
Oslo Sanitetsforening Rheumatism Hospital, Oslo

Four women, age 16–25 years, have been treated with excision of the fat pad of the knee joint, one bilaterally. Three have been relieved of their symptoms while in one the operation was performed too recently to judge the result.

The aetiology is discussed; trauma may be the cause. Once the condition occurs, it seems that the patients enter a "vicious circle", and the treatment of choice is excision of the fat pad. Soft tissue X-ray, and arthroscopy may be useful in making the diagnosis.

ATLANTO-AXIAL LUXATION IN RHEUMATOID ARTHRITIS

Jens Teigland
Oslo Sanitetsforening Rheumatism Hospital, Oslo

A videotape was shown of the technique of radiological examination, the symptoms and signs, and the operative fixation in atlanto-axial luxation *ad modum* Brattstrøm-Granholm.

The videotape also dealt with a technique for measuring the spinal fluid pressure with a transducer, showing the special pressure pattern elicited by compression of the jugular vein with the head in a neutral position, in a ventroflexed and a dorsiflexed position. The videotape was produced in the Department of Rheumatoid Surgery in collaboration with the Department of Neurosurgery, Rikshospitalet, Oslo.

Oslo, February 12th, 1977

CLEIDOCRANIAL DYSOSTOSIS

Tore Grønmark
Telemark Central Hospital, Skien

One case of cleidocranial dysostosis is reported. The aetiology, clinical picture and treatment of the lesion are discussed. Pseudarthrosis of the clavicle and other clavicular abnormalities in cleidocranial dysostosis usually require no special treatment.

AN OPERATIVE TECHNIQUE FOR GENU RECURVATUM

Kåre Hadland
Telemark Central Hospital, Skien

A middle-aged woman with marked genu recurvatum, caused by a previous hyperextension injury, was operated on using the following technique:

A long strip of the iliotibial band was dissected free, preserving the insertion on the anterior aspect of the tibia. The strip was passed obliquely backwards, and pulled through a hole drilled transversely and as far posteriorly as possible through both femoral condyles. From here the strip was passed obliquely outside the medial capsule, and under strong tension, and with the knee in some degree of flexion, it was anchored on the anteromedial aspect of the tibia.

Immobilisation in a plaster cast was maintained for 3 months. The result was excellent.

SURGICAL TREATMENT OF DISLOCATION OF THE PERONEAL TENDONS

Tore Grønmark
Telemark Central Hospital, Skien

One case of dislocation of the peroneal tendons treated operatively by the method of Ellis Jones is reported. Early operation for dislocation of the peroneal tendons is advocated.

Oslo, March 12th, 1977

ORTHOPAEDICS IN A REGIONALIZED HEALTH SERVICE SYSTEM: HEALTH REGION 5

Einar Sudmann
Regional Hospital in Tromsø, Tromsø

In Norway orthopaedic patients, except those with acute trauma, have been treated for the most part in the state hospitals in southern Norway. In 1974, Norway was divided into five health regions, and the responsibility for an orthopaedic service was imposed on the individual regions.

To make an estimate of the need for orthopaedic beds per 1000 inhabitants in the fifth health region, which is sparsely populated, the mean hospital stay in 1975 for a selected patient material from three surgical departments in the region was recorded. For trauma cases, orthodox orthopaedics and rheumatoid arthritis this was 14.1, 18 and 18.3 days, respectively. Based on

these figures the estimate per 1000 inhabitants was assessed as: trauma (muscleloscletal) 0.27, orthodox orthopaedics 0.30, and surgery for rheumatoid arthritis 0.08. The Regional hospital in Tromsø together with one Central hospital have less than half of the beds required. Accordingly, only after establishment of new orthopaedic services in the other Central hospitals in the region can the patients be given satisfactory service.

ANTERIOR DISPLACEMENT OF THE TIBIAL TUBEROSITY IN THE TREATMENT OF CHONDROMALACIA PATELLAE

Einar Sudmann & Berndt Salkowitsch
Regional Hospital in Tromsø, Tromsø

The preliminary results of 15 consecutive operations in 13 patients, eight men and five women, are reported. Age range, 17–57 years. Chondromalacia of the femoral and tibial condyles was found in four knees and in one knee, respectively, and meniscus tears were found in three. The diseased cartilage was removed. The mean anterior displacement of the tibial tuberosity was 12 mm.

Ten of the patients were improved, three of them resumed athletic activity. One patient was not improved, and in two the observation time was too short.

Postoperative infection occurred in one case, and thrombosis of the leg in one. The anterior displacement failed in one, and one patient broke his leg in the operated diaphysis in a skiing accident.

The preliminary results were assessed as satisfactory, and the complications were mainly caused by faulty operative technique.

CHRONIC ANTERIOR COMPARTMENT SYNDROME OF THE LEG

Einar Sudmann
Regional Hospital in Tromsø, Tromsø

In a patient suffering from backache and paresis of the muscles of the anterior compartment of the leg, the diagnosis of chronic anterior compartment syndrome was made by exclusion. The paresis responded to blind diathermic fasciotomy.

During the following 10 months this condition was especially looked for in patients with painful legs. Unexpectedly, a similar syndrome was diagnosed in 23 patients with ordinary physical exertion. The age range was 11–68 years. Three patients had paresis, and 14 neurological signs of affection of the fibularis profundus nerve. The syndrome responded well to blind diathermic fasciotomy in the first 11 consecutive patients operated upon.

Most of the patients were females, and had been misdiagnosed for years.

Oslo, April 16th, 1977

OVERGROWTH OF THE LIMB AFTER FRACTURE OF THE LOWER LEG IN CHILDHOOD

Geir Tangen, Øyvind Hansen & Per Edvardsen
Regional Hospital, Trondheim

Eighteen patients treated for leg fracture in childhood were re-examined, 8 to 10 years after the injury.

The limb length was examined radiologically, and the measurements included the tibia, the fibula and the femur on both sides. A slight overgrowth was found in the tibia. The tendency was more marked in oblique fractures, and in the youngest children. No increase in growth rate was found in the femur, or in the fibula.

The differences found were small, and in most cases without clinical significance.

AVULSION OF THE PATELLAR LIGAMENT IN A PATIENT WITH SPASTIC PARAPARESIS

Bjørn Samstad
Regional Hospital, Trondheim

An 11-year-old girl with spastic paraparesis, detected when she was 1-year-old, had been able to walk with a walking frame on wheels. She had previously had tenotomies of the Achilles tendons, because of equinovarus deformities.

Following sudden severe pain in both knees she was examined clinically, and radiologically. On the left side there was an avulsion of the lower pole of the patella, and on the right side an avulsion of the patellar ligament from its attachment to the tibial tuberosity. The patient also had 25° flexion contractures of both hips.

A releasing incision of the origin of the rectus femoris muscle was performed, combined with tenotomy of the reflected head of the same muscle, bilaterally. The patient's complaints disappeared rapidly.

FAT EMBOLISM SYNDROME AFTER FRACTURE OF THE TIBIA

Svein Svenningsen
Regional Hospital in Trondheim, Trondheim

A 69-year-old, previously healthy man with an uncomplicated fracture of the tibial shaft, lost consciousness two days after the injury. He developed tachycardia and anaemia, and radiologically bilateral lung infiltrations. Despite lack of other signs of hypovolaemia, the urinary output was low with signs of renal failure.

Clinical pulmonary signs were scanty. The patient died 5 days after injury.

Autopsy revealed multiple fat emboli in the lungs and brain and small haemorrhagic infarcts in all parts of the brain. Fat embolism syndrome after a tibial fracture is rare, and especially so in this age group.

AVULSION OF THE ISCHIAL TUBEROSITY

Anders Dahle
Regional Hospital in Trondheim, Trondheim

Four patients with avulsion of the ischial tuberosity, two boys and two girls, are reported. The main symptom was pain in the buttock, which started at the age of 12 to 15 years. Three had been injured during sports activities, and in one patient the symptoms occurred after rowing, without other trauma. The mechanism of the pain could in all patients be explained as overstretching of the hamstrings.

Two patients with complaints lasting 3 and 7 years, respectively, were operated upon. They had a non-union of the apophysis, which was removed with good results.

Stavanger, May 12th–14th, 1977

EXPERIENCES WITH A STERILE OPERATING CHAMBER

Sverre Skeie
Sandnes Hospital, Sandnes

In September 1974 a sterile operating chamber was installed at this hospital. Up to November 1976, 324 total hip replacement operations *ad modum* Charnley were performed in the chamber. So far there have not been any primary or secondary signs of infection, or loosening of the prostheses.

The sterile operating chamber has furthermore been in daily use for other types of bone operations.

At each operation two Petri-dishes of blood agar have been placed on the floor of the chamber. For 1140 observations the growth has been 0.6 colonies per dish per hour.

DOES INDOMETHACIN (IMC) PREVENT POSTOPERATIVE ECTOPIC OSSIFICATION IN TOTAL HIP REPLACEMENT ?

Kåre Almåsbakk & Per Røysland
Regional Hospital in Trondheim, Trondheim

Eighty-one operated hips in 73 patients were evaluated 3 months after operation. There were two main groups, 54 hips in patients not given IMC, and 27 hips in patients given 25 mg IMC, 3 times daily, the first 4 weeks postoperatively.

The group without IMC showed a greater frequency of high grade ossification, while low grade ossification was equally frequent in the two groups. In the former group there were no signs of ectopic ossification in only 14 hips, i.e., 26 per cent. In comparison no ossification was seen in 17 hips in patients given IMC, i.e., 63 per cent.

It is concluded that IMC significantly prevents postoperative ectopic ossification following total hip replacement.

"INDOMETHACIN HIPS"

Helge Rønningen & Norvald Langeland
Sophies Minde Orthopaedic Hospital, Oslo

The course of osteoarthritis in 294 hips of 186 patients was evaluated by examining their radiographs. The development of the disease in patients treated with indomethacin was compared with that in a control group. In the indomethacin group the disease progressed more frequently, and in some parameters the progress seemed more severe. The results support previous reports indicating that indomethacin might have a deleterious effect on osteoarthritic hip joints. Some possible explanations for this adverse effect of indomethacin treatment are briefly discussed.

CONTROLLED INDUCED HYPOTENSION IN HIP SURGERY

M. A. Khalid Kahn & Ole Dankert Lunde
Sandnes Hospital, Sandnes

The pharmacological basis, the technique, the indications and contraindications for the use of induced controlled hypotension were given. Fifty patients had a total hip replacement arthroplasty *ad modum* Charnley, 25 under controlled hypotension, 25 under normotension.

In the former group the peroperative haemorrhage was reduced to a fifth, compared with the normotension group, the operative time was reduced by 15 per cent, and the need for blood transfusions reduced by 50 per cent. A comparative study of nine bilateral cases gave identical results. There were no postoperative complications recorded in either of the groups.

FRACTURE OF THE FEMORAL STEM AFTER TOTAL HIP REPLACEMENT

Pål Benum
Regional Hospital in Trondheim, Trondheim

Three cases of fractured femoral stems of the Charnley-Müller prosthesis are reported in males, younger than 70 years at implantation, on average 4 years and 3 months after operation. Out of 74 prostheses with a minimum observation period of a corresponding length, 14 had been implanted in males under 70 years of age.

Resorption of the calcar femoris preceded fracture of the stem. All the fractured stems had been implanted in a varus position. Tissue reaction to wear products might have contributed to bone resorption.

Even if a new design may reduce the tendency to fracture of the stem of the prosthesis, it is emphasized that varus position of the stem should be avoided.

LATE INFECTIONS AFTER TOTAL HIP REPLACEMENT

Olav Reikerås
Kronprinsesse Märthas Institute, Oslo

Infection is the most serious complication of total hip replacement. We have reviewed 293 operations with a mean follow-up of 4.2 years. There were five infections 1–4 years after the operation. Three of these were the low-virulent type combined with loosening of the prosthesis and the presence of staphylococcus albus. Two young patients, 29 and 33 years respectively, with Bechterew's disease got a virulent infection, 2 and 3 years after the operation. One was infected with β-haemolytic streptococcus following an erysipelas of the leg. The other was infected with staphylococcus aureus in connection with extraction of a molar tooth. It is suggested that both were infected from haematogenous seeding.

FURTHER EXPERIENCE IN THE TREATMENT OF PER- AND SUBTROCHANTERIC FRACTURES OF THE FEMUR BY THE ENDER METHOD

Tor Steinar Raugstad, Anders Mølster, Willy Haukeland & Antti Alho
Haukeland Hospital, Bergen

The Ender method consists of insertion of round, flexible condylocephalic intramedullary nails. 104 patients were reviewed. The median age was 77 years, and 80 per cent were older than 70 years. Concomitant diseases were found in 73 per cent.

The follow-up showed good functional results. There was a tendency for shortening to occur, more than 2 cm in 15 per cent of the patients. External malrotation of more than 20° was observed in 15 per cent of the patients. Towards the end of the series, with awareness of this problem, the malrotation decreased.

The Ender method has advantages, with a short operation time, minor operative trauma, and early mobilization and weight-bearing. Because of some rotational instability the method should be reserved for patients older than 65–70 years.

FRACTURES OF THE NECK OF THE FEMUR TREATED WITH VON BAHR SCREWS

Anders Mølster, Odd Søreide & Tor Steinar Raugstad
Haukeland Hospital, Bergen

The material consists of 103 patients with displaced, intracapsular fractures of the neck of the femur treated with von Bahr screws. Early weight-bearing was allowed.

At the 1-year follow-up, 18 patients had mechanical failure, 68 were healed with six diagnosed aseptic necroses of the head of the femur. Eleven patients were dead, and the remaining did not attend the follow-up examination. Excellent or good results were achieved in 80 per cent in the healed fracture group (Stinchfield classification system).

There was a highly significant correlation between operative result and late result. Exact reduction and a slight valgus position, as well as a parallel screw position, with the distal screw lying on the calcar, led to favourable late results. The degree of primary dislocation (Garden 2–4) did not correlate with the incidence of delayed healing or mechanical failure. The number of cases with aseptic necrosis was small, but five of the six had primary dislocation graded as Garden 4, though all six had an operative result graded as excellent or good.

OPERATIVE TREATMENT OF COMMINUTED FRACTURES OF THE LOWER END OF THE HUMERUS

Pål Benum & Svenn Syversen
Ullevål Hospital, Oslo

The results after osteosynthesis of 12 severely dislocated comminuted fractures, stabilized with screws, pins and/or plates, are reported. The transolecraneal approach was used in 10 patients. Flexion was excellent in three, good in four, and fair in three patients. One suffered from pain after healing of the fracture. Two patients, operated with an inverted V-incision through the triceps aponeurosis, dislocated and ended up with poor mobility.

It is concluded that exact reduction and stable fixation of highly dislocated, comminuted fractures of the lower end of the humerus should be performed with a transolecraneal approach. However, excellent operative conditions are mandatory.

COMMINUTED FRACTURES IN THE DISTAL PART OF THE RADIUS TREATED WITH EXTERNAL FIXATION AD MODUM HOFFMANN

Ulf Slungaard
Aker Hospital, Oslo

Comminuted fractures of the distal end of the radius have a tendency to heal with shortening, when treated with reduction and plaster cast.

Five patients treated with external fixation *ad modum* Hoffman, with two screws in the second metacarpal bone, and two screws in the radius proximal to the fracture, are reported.

The patients tolerated this treatment well, finding it more comfortable than plaster (all had been first unsuccessfully treated with plaster).

SPIRAL FRACTURES OF THE TIBIA TREATED WITH PERCUTANEOUS WIRE CERCLAGE

Anders Mølster
Haukeland Hospital, Bergen

The preliminary results of Goetze's percutaneous application of wire cerclage, followed by functional plaster for oblique and spiral fractures of the tibia, are reported.

Seven patients were operated on and an exact anatomical position was achieved without primary complications. None redislocated, and so far four have been allowed weight-bearing after 10–16 weeks. The wires were removed after 12–23 weeks.

Percutaneous cerclage makes plaster treatment easier and safer, without a tendency for shortening to occur, and permits early ambulation. It should only be used for fractures with a fracture line longer than two tibia diameters.

RECONSTRUCTION OF THE LATERAL LIGAMENTS OF THE ANKLE JOINT AD MODUM STØREN

Tor Finn Denstad & Ludvig Fjeld Solheim
Martina Hansens Hospital, Sandvika

Reconstruction of the lateral ankle ligaments *ad modum* Støren, using the medial one third of the Achilles tendon as a nourished transplant, is probably little known [*Acta chir. scand.* (1959), **117**, 501–509].

Eighteen patients previously operated on using this technique answered a questionnaire. Seventeen had a stable joint, and were satisfied. Due to a new injury, one was reoperated using Evan's tenodesis operation. Active athletes were in full training 3–4 months after the operation. Late residual symptoms (pain, reduced mobility, swelling) were few.

REPAIR OF RUPTURES OF THE CUFF OF THE SHOULDER JOINT USING A POSTERO-SUPERIOR ACROMION – SPLITTING APPROACH

Einar Sudmann
Regional Hospital in Tromsø, Tromsø

Two patients with complete rupture of the shoulder cuff have been operated on using a postero-superior approach *ad modum* Debeyre et al [*J. Bone Jt Surg. (1965)* **47**-B, 36–42]. The approach proved very adequate, permitting easy mobilization of the supraspinatus muscle in one case, and making the repair of the tear possible without undue tension.

AN EVALUATION OF THE PROSTHESIS SERVICE FOR LOWER EXTREMITY AMPUTEES IN SANDNES

Else Marie Høyem
Sandnes Hospital, Sandnes

A follow-up examination of 82 patients (average age 60½ years) fitted with a prosthesis, showed that a surprisingly large number of the patients (95 per cent) were using their prosthesis, but 62 per cent of them had more or less serious problems now and then. Half of the patients were not satisfied with the service provided.

Indications for amputation were vascular diseases in 34, injuries in 31, and other causes in 17.

It is concluded that it is necessary to provide more adequate information for patients and relatives, more time should be spent for fitting and rehabilitation, there should be more frequent visits from the orthopaedic technician, and a regular follow-up of the amputees. Treatment at rehabilitation centres would be preferable.

GIANT CELL TUMOUR OF BONE TREATED WITH AUTOGENOUS BONE GRAFT

Terje Terjesen
Regional Hospital, Trondheim

Most giant-cell tumours of bone are invasive and aggressive in their behaviour, with a recurrence rate in large series of about 40 per cent. A 30-year-old woman with a giant-cell tumour in the distal end of the radius was treated by *en bloc* resection, and reconstructed with an autogenous bone graft from the upper third of the fibula.

Solid union between the graft and the radius occurred. The functional result was satisfactory. She had no pain in the wrist, and a good grip, although the range of mobility in the wrist

joint, and rotation of the forearm was considerably reduced.

GRISEL'S SYNDROME

Kjell Harbo
Sandnes Hospital, Sandnes

Two girls, 4 and 7 years of age respectively, developed painful torticollis, the youngest after an upper respiratory tract infection and the oldest after an operation for cleft lip and palate.

Radiological examination showed, in the youngest patient, a subluxation between C-II and C-III, and in the other, an atlantoaxial subluxation.

Both patients were treated by "the double mattress technique" for 4 and 8 weeks, and were further immobilized in a Minerva jacket for 8 and 12 weeks, respectively. The subluxation was reduced in both cases during extension treatment. Both girls have completely recovered. The treatment started in one case 1 month, in the other 6 months, after the onset of symptoms.

RESTORATION OF THUMB OPPOSITION

Gisle Uppheim
Kronprinsesse Märthas Institute, Oslo

A total of 110 tendon transfers for restoration of thumb opposition were reviewed (sequelae to poliomyelitis 66, trauma 30). The results were good in 74, fair in 25, and poor in 11 cases. The higher proportion of failures in the poliomyelitis group can be explained by the use of muscles, which were too weak.

Distal insertion *ad modum* Bunnell (18 cases) gave a better result than did insertion *ad modum* Riordan (60 cases). Of eight extensor muscle transfers, six had a good result. Of 97 flexor sublimus transfers, 23 developed a significant flexion contracture at the proximal interphalangeal joint of the donor finger, while three developed a swan neck deformity.

OPERATIVE TREATMENT FOR POST-TRAUMATIC STIFFNESS OF THE KNEE JOINT

Per Siewers & Helge Fjermeros
Central Hospital in Kristiansand, Kristiansand S

Five adult patients who had severe stiffness of the knee joint following trauma, in or near the joint, were treated by operation when no further spontaneous improvement was expected.

The operative procedures were based mainly on Thompson's quadricepsplasty. The average gain in active flexion was 60°, a highly satisfactory result.

WAGNER'S METHOD OF LIMB LENGTHENING

I. Bjerkreim, N. Langeland & H. Rønningen
Sophies Minde Orthopaedic Hospital, Oslo

A short survey of indications for, and complications in, leg lengthening was given. The Wagner device for limb lengthening was used in a 14-year-old girl, height 150 cm, with a congenital, 6 cm shortening of the left femur. After 3 weeks of distraction the pins had bent slightly, and a varus angulation developed. Equalisation was predicted at 6 weeks. The proximal pin holder, however, slipped on the distraction bar, and half of the correction was lost. After adjustment and resecuring of the pin holder, limb-length equalisation was attained at 12 weeks. Osteosynthesis using a strong metal plate and cancellous bone from the iliac crest was performed. The varus angulation could be corrected, and the Wagner device was used as additional fixation for another 4 weeks. Because of considerable reduction in knee flexion to 30°, the pins were removed, and the knee flexion rapidly normalized.

A follow-up radiological examination showed increasing bone healing.

LENGTHENING OF THE FEMUR AD MODUM WAGNER

Einar Sudmann
Regional Hospital in Tromsø, Tromsø

In a female patient aged 17 years, with a leg length discrepancy of 7.5 cm, the femur was lengthened 7.5 cm in 0.15 cm daily increments, after a transverse mid-femoral osteotomy. The length so obtained was retained by a plate applied laterally, and blocks of bone allografts wedged in between the bone ends. The patient, with the Wagner lengthening device attached, was allowed out of bed on crutches. No complications were encountered.

NON-UNION OF THE CLAVICLE

Arvid Høgberg
Sandnes Hospital, Sandnes

Factors predisposing to development of post-traumatic non-union of the clavicle, and indications for operative treatment were discussed. Four patients treated with intramedullary nailing using Rush-pins, and transplantation of bone chips from the iliac crest were reported. The results were good.

THE USE OF BONE CEMENT FOR FIXATION OF FRACTURES IN PATIENTS WITH MYELOMATOSIS

Bjørn Samstad
Regional Hospital, Trondheim

Bone cement was used for fixation of fractures in two patients with myelomatosis. In an 80-year-old woman with a spontaneous fracture of the femur which crossed the lesser trochanter, the entire medulla of the proximal fragment was filled with bone cement, prior to fixation of the fracture with an angled nail-plate. There were no postoperative complications, and the patient walks without support.

In a 56-year-old man a spontaneous fracture of the acetabulum was treated with insertion of a Müller total hip prosthesis. The bone defect was filled with bone cement prior to the insertion. There were no postoperative complications. Four months later he was admitted with an identical fracture of the other hip, which was treated in exactly the same way, with a similar satisfactory result.

There have been no clinical or radiological signs of recurrence of the local process, 1 year postoperatively, in either patient.