Acta Orthop. Scand. 58, 209–211, 1987

Pressure sores common after hip operations

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We report the incidence of pressure sores in patients operated on for hip fracture or with total hip replacement. Pressure sores were found in 30 and 4 per cent, respectively. Half of the sores appeared within 1 week postoperatively, and more than half healed in the hospital. Most of the sores were found in patients over 80 years of age.

No relation was found between pressure sores and smoking, diabetes mellitus, low hemoglobin, and poor state of nutrition. Patients with pressure sores stayed in the hospital longer and were often discharged to nursing homes.

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Introduction

Previous studies have shown that hospitalized patients often contract pressure sores, which are seen more often in the elderly than in younger patients (Abildgaard & Daugaard 1979, Andersen & Trier 1984). Various authors have pointed out several factors that enhance the risk of developing pressure sores, for instance, immobility (Manley 1978), denervation with loss of sensibility (Kosiak 1961), and bad nutrition with low body weight (Ebbehøj 1970).

More than 10 per cent of all the patients in the hospital get pressure sores (Abildgaard & Daugaard 1979), and more than 50 per cent of all pressure sores develop during hospitalization (Petersen & Bittman 1971). The elderly in orthopedic wards are high-risk patients (Abildgaard & Daugaard 1979).

We investigated the incidence of pressure sores after hip operations for arthrosis or fracture.

Patients and methods

In the period January 1, 1983, through December 31, 1984, 150 patients had total hip replacement because of arthrosis (Group A) and 156 patients were operated on for hip fracture (Group B).

The prosthesis used in Group A was Richards Series II, and the operations were performed through a posterior approach. The mean age was 68 (49–84) years, and about half of the patients were females.

In Group B, patients over aged 70 years with cervical fractures were treated with a hemiarthroplasty (Monk hard-top prosthesis) through a posterior approach. All the other hip fractures were fixated with a hip compression screw (Richards sliding nail). The mean age in this group was 80 (39–95) years, 78 per cent being females.

A pressure sore was defined as a lesion of both the epidermis and the dermis as a result of external pressure. Information about the pressure sores was obtained from the case notes and especially the nurse's registers.

Results

Pressure sores developed in 4 per cent of the patients in Group A and in 30 per cent in Group B. (Table 1)

A total of 73 pressure sores were seen in 53 patients (17%). Pressure sores were present at admission or developed preoperatively in 10 per cent of the cases. In 50 per cent the pressure sore developed within 1 week after the operation and in 40 per cent later.

Table 1. Pressure sores after hip surgery

Group	Pressure sores (%)		Total
	–	+	
Arthrosis			
Total arthroplasty	144 (96)	6 (4)	150
Fracture	109 (70)	47 (30)	156
Hemiarthroplasty	51	22	73
Compression screw	58	25	83
Total	253 (83)	53 (17)	306

Table 2. Age-related ratio of pressure sores in the two groups of patients. Figures given are number of patients with pressure sores versus total number

Group	Age		
	–69	70–79	80–
Arthrosis	2/89	4/55	0/6
Fracture	5/22	10/52	32/82

The incidence increased steeply with advancing age; half the patients in Group B were more than 80 years of age, and 40 per cent of these developed pressure sores. In Group A, only a few of the older patients developed pressure sores. Seventy per cent of all the pressure sores were seen in patients aged 80 years or over (Table 2).

In Group A, no difference was found in patients with or without pressure sores regarding age, sex, duration of operation, and hospitalization time. None of the patients died during admission or were discharged to nursing homes.

Patients with pressure sores in Group B were 3 years (81 vs. 78) older, stayed in the hospital twice as long (42 vs. 25 days), and more than three times as many were discharged to nursing homes (22/47 vs. 16/109).

The mortality rate was higher in patients with pressure sores. In Group A, all the pressure sores had healed at the time of discharge from the hospital in contrast to 21 patients in Group B, who were discharged with pressure sores, 14 of these to nursing home. Nine patients died, 6 of these had pressure sores at the time of death.

No difference was found in the two groups regarding smoking, diabetes mellitus, low hemoglobin, poor nutrition, or the duration of the operation between patients with or without pressure sores.

The localization of pressure sores was sacrum, 34 per cent, heal/calcaneal tendon, 29 per cent; buttocks, 21 per cent; various other sites, 16 percent.

All the patients were treated conservatively with daily change of dressing; operations or skin transplantation were not performed.

Discussion

Our results confirm Versluysen's (1985) report that nearly a third of patients with hip fractures contracted pressure sores during their stay in the hospital. Versluysen (1985) also reported that pressure sores were a problem in patients receiving a THR because of arthrosis. This differs from our findings, where only a few pressure sores were seen in these patients, probably because they were otherwise healthy and because their mean age was only 68 years.

Several authors have pointed out that advanced age is the main risk factor in the development of pressure sores (Abildgaard & Daugaard 1979, Versluysen 1985, Andersen & Trier 1984). This was confirmed in our study.

Other risk factors have been suggested, such as denervation (Kosiak 1961), immobility (Manley 1978), and low body weight (Ebbehøj 1970). We could not draw any conclusions about the importance of these factors from our results.

Most pressure sores were seen within 1 week after the operation, which accords with the results of Versluysen (1985) and Abildgaard & Daugaard (1979). This comes as no surprise, because the patients are most immobile during this period and may have suffered long-lasting pressure during the operation. Barton & Barton (1981) have shown that pressure sores may appear up to 1 week after the pressure application because the necrosis starts in the muscles and deep dermis. Daniel (1981) has shown that the skin is more resistant to long-lasting pressure than the underlying tissue.

Like Versluysen (1985) and Manley (1978), we found no relation between the location of the pressure sores and the position of the patient during the operation. In agreement with Versluysen (1985), we found that patients with pressure sores remained in the hospital twice as long as patients without pressure sores. This is probably not due to the pressure sores alone, but due to the fact that the patients were older and in a poorer state of health.

Pressure sores mean suffering for the patient and treatment is time consuming for the nursing staff. The importance of preventive measures cannot be stressed too much, and intensive skin, care and frequent turning should be started if any signs of pressure, such as redness of the skin, appears. Special attention should be paid to patients aged 80 years or more.

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