Ambulatory Surgery for Vascular Access for Hemodialysis

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Dear Sir,

The development of ambulatory surgery facilities, either as hospital-integrated units or free standing centers, has increased day after day during the past years [1]. We document our experience of ambulatory surgery with surgical operations made for the construction and maintenance of vascular access for hemodialysis.

Our surgical group is in charge of dialysis access management in a population of 566 dialysis patients. These patients belong to several hospitals in Madrid and other surrounding cities, 35-125 miles away from our hospital. Vascular accesses have been retrospectively analyzed to find early fistula outcome. All the procedures were performed as ambulatory surgical operations with the following exceptions: (1) patients hospitalized for other reasons; (2) graft infection; (3) lower limb grafts; (4) nocturnal emergency (hospital admission was offered to the patient up to the following morning after the operation); (5) preference of either the patient or the nefro-

logist. All the outpatient procedures have been done under local anesthesia and performed with alkalinized 0.25% bupivacaine. Only 3 hospitalized patients with severe graft sepsis were treated under general anesthesia.

In ambulatory cases, patients were taken home directly from the operating room, either by taxi cabs, ambulances provided by the referring hospital or relatives' vehicles. The day after the operation, the patients were revised by their nephrologist at the outpatient clinic. All the postoperative incidences were communicated to our group.

Early failure was considered if the fistula was lost within the 1st month after the operation due to complications such as thrombosis or infection. If the fistula was not used for dialysis due to difficulties in punction or an adequate dialysis flow was not obtained, early fistula failure was also considered.

Between 1980 and 1991, 1,819 surgical procedures were performed for the construction and maintenance of vascular access for

hemodialysis. 1,107 operations were arte-riovenous fistula placement in patients without previous vascular access or with failed fistulas. 872 of these vascular accesses (78.7%) were done as ambulatory procedures. The characteristics of these fistulas are listed in table 1. 712 operations were surgical procedures performed to treat fistula complications. 610 of these operations (85%) were ambulatory procedures. The complications treated by rescue procedures are depicted in table 2.

There was no perioperative mortality, postoperative bleeding or hospital admission of any patient in ambulatory cases. There was no postoperative wound infection in outpatient operations. The inpatient wound infection rates were: 2.5% in graft fistulas and 0.5% in radiocephalic or antecubital fistulas. Early failure rates are represented in table 3. The number of surgical procedures needed for the construction and maintenance of vascular access for hemodialysis is increas

Table 1. Surgical procedures performed in patients without previous fistula or with nonrecoverable failed vascular access

Amb. Surg.
Vascular access
0/

Table 2. Complications of vascular access for dialysis treated with 712 surgical rescue procedures (complications treated with other vascular accesses excluded)

Amb. Surg.
Complication

672

171

54

173

31

6

107

Radiocephalic Antecubital Forearm PTFE grafts Brachial-axillar PTFE grafts Brachial-jugular PTFE grafts Femorofemoral PTFE grafts Total

Amb. Surg.= Ambulatory surgical procedures.

524 153

46

127

22

0

872

77.9 89.4 85.1 73.4 70.9 0 78.7

Thrombosis

Malfunction

Aneurisms

Puncture site bleeding

Venous hypertension

'Steal' syndrome

Infection

Total

370 174 41 26 19 17 65 712

0028-2766/93/

0642-0323\$2.75/0

Table 3. Early failure in 1,107 vascular accesses for dialysis (overall early failure =3.9%)

Vascular access Outpatient, % Inpatient, %

ing progressively, and the long-lasting vascular accesses are prone to many complications, most of them needing surgical rescue procedures [2,3].

Ambulatory surgery for vascular access for dialysis is an important issue to avoid hospital admissions in patients already afflicted by multiple hospital stay. Our early observation of minimal complication rate after surgical procedures for vascular access promoted our decision of practising this kind of surgery on an ambulatory setting with minimal exceptions. Ambulatory surgery was performed not only for simple wrist procedures but also for complex operations such as brachial-jugular grafts [4].

As in other experiences with ambulatory surgery, we have observed a low wound infection rate in outpatient operations [5]. Early fistula failure was similar for inpatient and outpatient cases.

Revising the English literature, we could not find many references related to ambulatory surgery for dialysis access [6]. We believe that most surgical procedures used for the construction and maintenance of vascular access for hemodialysis can be made in an ambulatory surgery setting.

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