

Raed M.A. Isayed

Palestine, which is located in the Middle East, has a population of around four million people and a small number of vascular surgeons despite having a large number of vascular patients. The Department of Vascular Surgery in Al-Ahli Hospital in Hebron/Palestine is a leading center of excellence in the provision of treatment of vascular diseases. Our hospital is a 200-bed facility, with 8 beds in the intensive care unit, 12 beds in the coronary care unit, 9 operating rooms, and an endovascular intervention unit (Fig. 51.1).

In this chapter I will briefly discuss the status of vascular surgery and my experience over 5 years in one center in the southern West Bank in Palestine that covers an area serving 1.3 million people in the city of Hebron. In this area, I am the only vascular surgeon who works at the hospital on a daily basis and is on call 24 h/day, 7 days/week. Four residents help me run the outpatient clinics, follow up with in-patient care, and assist me in the operating room. On average, I perform around 600 vascular interventions per year and sometimes see more than six cases of vascular injury a day.

Our operating room is well prepared and I have all grafts, catheters, and instruments that I need. The endovascular unit is equipped with all sizes

of stents, balloons, and catheters. What is lacking are new devices, such as atherectomy devices or devices for aortic aneurysms.

Management of Diabetic Foot and Peripheral Arterial Disease

Peripheral arterial disease is a common manifestation of atherosclerosis. The prevalence of peripheral arterial disease continues to increase. In our center, the sex distribution is 60% males and 40% females; the distribution of ages is as follows: 1% below 49 years, 25% 50–59 years, 61% 60–69 years, and 13% above 70 years (Fig. 51.2).

The clinical presentation of patients is as follows: 20% present with claudication, 10% with rest pain, 20% with tissue loss, and 50% with gangrene (Fig. 51.3).

On a case-by-case basis, revascularization (endovascular and bypass) procedures have been shown to save limbs and ultimately provide a better quality of life for patients. With appropriate care, even patients considered high risk can undergo these procedures, which are safe and effective.

We have documented a large number of successful patient case histories that detail how complex revascularization using distal bypass operations and angioplasty techniques has resulted in a healed foot and avoided amputation. If even a small portion of a foot can be saved, then the person can walk effectively and lead a reasonably normal life.

R.M.A. Isayed (✉)
Department of Vascular Surgery, Al-Ahli Hospital,
Ain Sara, Hebron 0097, Palestine
e-mail: vanellasky1980@gmail.com



Fig. 51.1 Ahli Hospital in Hebron, Palestine

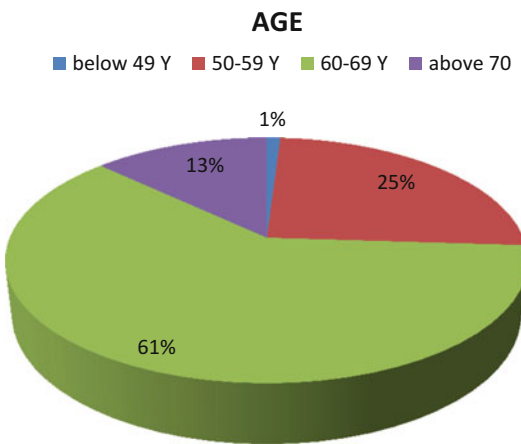


Fig. 51.2 Prevalence of peripheral artery disease by age

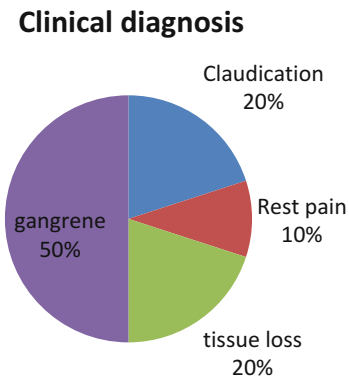


Fig. 51.3 Clinical presentation of peripheral arterial disease patients in our facility

Many cases that I face are in a delayed stage of disease with extensive atherosclerosis and multiple sites of occlusion, so managing the conditions is challenging, and sometimes I perform extra anatomical bypass or combined endovascular and bypass surgeries (Fig. 51.4).

Management of Venous Diseases

Varicose veins are a known cause of physical and psychological discomfort to patients, bringing about various conditions, from skin discoloration

to venous ulcers. Varicose veins are more common in women, especially following child-birth. More than 90% of my varicose vein patients are treated effectively by injections of foam sclerotherapy; others are treated by open surgery. Patients with venous ulcers and venous hypertension are treated through wound management and compression therapy.

Deep venous thrombosis is a quite common disease, especially postpartum. We treat it by anticoagulation and compression therapy and use an inferior vena cava filter in indicated cases, which have been rare in our patients. In the last 2 years

Fig. 51.4 Left femoral-posterior tibial artery bypass by composite graft



Fig. 51.5 Left forearm warfarin-induced skin gangrene

I have been using the new anticoagulation drug Rivaroxaban with excellent results. We have six documented cases of warfarin-induced skin gangrene over a 5-year period, one case in the forearm and the others in the lower limbs (Fig. 51.5).

Vascular Access Surgery for Hemodialysis and Management of Access Complications

We routinely provide expert advice and treatment of complicated access-related procedures like native arteriovenous (A-V) fistula, AV graft, and permcath, and in addition deal with all complications arising in patients requiring such interventions. On a monthly basis I perform an average of 25 to 30 AV fistula procedures and deal with one or two cases of access complications.

Vascular Malformations

Some patients have abnormally developed blood vessels that may be disfiguring or disabling. I treat cases of congenital hemangioma with propranolol

with excellent results and other cases at peripheral sites with sclerotherapy. Complicated cases are transferred to Jordan because we do not have a specialized center to deal with those cases. This is difficult and expensive for the families.

Vascular Injury

I have considerable experience treating vascular injuries in the form of gunshots or motor vehicle accidents, penetrating trauma, and even iatrogenic intraoperative vascular injury. Over the course of 5 years, I have documented around 400 cases of gunshot accidents with vascular injury. Gunshot wounds occur mainly at the infrainguinal level and sometimes in the upper limbs, abdomen, and chest.

Femoral vessel gunshot injury (Fig. 51.6): My experience involves control and revascularization in femoral cases in 1.5 h; my approach is always to work directly and open an incision over the femoral artery at the injury site without doing proximal control; nearly all cases require grafting. I use the saphenous vein of the same limb if there is no venous injury, but if the vein is injured, I use the great saphenous vein of the contralateral limb. In cases of bilateral lower limb injury, I use the saphenous vein of each limb.

Popliteal vessel gunshot injury (Fig. 51.7): My experience includes control and revascularization in cases of popliteal vessel injury in 2 to 2.5 h. I used a prone position with an S-shaped incision to do a full exposure of the popliteal fossa with a careful exploration of arteries, veins and nerves. If the popliteal vein was not injured I used the short saphenous vein if



Fig. 51.6 (a) This is a male patient presented with penetrating injury to right upper thigh, causing injury to common femoral vein. (b) Femoral triangle after exploration and before removal of penetrating metal

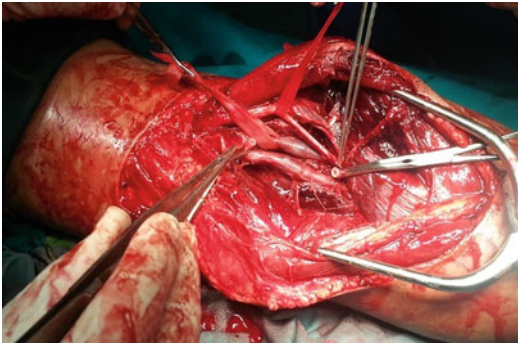


Fig. 51.7 Full exploration of popliteal fossa showing both ends of injured popliteal artery

it was intact or the great saphenous vein from the same leg to revascularize the popliteal artery; however, if the popliteal vein was injured, I used the great saphenous from the contralateral leg. If the nerves were injured, the injury is treated by the neurosurgeon in accordance with its degree of seriousness.

Sometimes, many cases arise at the same time, so I deal with cases involving active bleeding first, then cases with contained hematoma. I handle cases with lower limb vascular injury that have lasted more than 24 h. The difference in cases with delays is that edema makes exploration

very difficult, and anterior and posterior leg compartment prophylactic fasciotomy must be performed. In most of cases closer of this fasciotomy occurred on second day post operative with first dressing.

All cases involving arterial injury required anticoagulation (Rivaroxaban) only with 100 mg aspirin daily for 1 month, with aspirin alone continuing for 6 months. In cases with venous or arterial and venous injuries, I use Rivaroxaban with aspirin for 6 months then continue with aspirin only for another 6 months.

Management of Cases with Acute Ischemia

Cases with acute ischemia related to embolization or acute thrombosis are treated by open surgery and embolectomy or thrombectomy.

I have documented more than ten cases involving acute ischemia and bleeding from a ruptured femoral artery with pseudoaneurysm postcardiac catheterization. In those cases I opened the incision directly over the aneurysm, dissecting and removing the hematoma and directly repairing the site of the catheterization sheath.