

Vascular access in Iraqi haemodialysis patients; a surgeon's perspectives

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Vascular access is the life line of the patients with end stage renal disease (ESRD) on regular haemodialysis. Whatever the type of this lifeline; an arteriovenous fistula (AVF), arteriovenous graft (AVG), or dialysis catheter (DC), it is associated with myriad of issues from patient selection, surgical procedure, efficiency and complications.

The increasing number of patients with ESRD and the improvement in the management of these patients and the improved survival on haemodialysis added a great challenges on vascular surgeons who are directly involved in the care of these medically demanding patients.

There is no such term of, ideal access; but the best achievable access should be durable, accessible, and effective in providing adequate flow to ensure dialysis adequacy. A vascular access should have good primary patency, have a low risk of complications and side effects, and leave opportunities for further procedures in the event of failure.¹

In order to achieve these goals we need to follow the international standards. There are different guidelines about vascular access in patients on haemodialysis (HD). The most notable guidelines are the 1997 National Kidney Foundation-Kidney Disease Outcome Quality Initiative (NKF-KDOQI) clinical practice guidelines and their updates in 2006 and 2017.² This is in addition the guidelines by the vascular access society and other guideline by national societies like Canadian and Japanese guidelines.³

Since the first practice guidelines in 1997 and across all the updated recommendations there was a solid and consistent statement that AVF is the preferred long term vascular access to provide HD. AVF is preferred over AVG and DC because it provides better patient and access

survival owing to fewer access-related complications such as infections and endovascular interventions, thus making it cost effective. To adequately achieve this goal, early referral to nephrology care and early creation of AVF while native veins are still healthy is the best approach. This access can provide the best dialysis adequacy and quality of life and may represent the best bridge for the optimum renal replacement therapy, renal transplantation.⁴

The difficulty of achieving early referral to the nephrologist and early creation of AVF is an international problem and Iraq is not different.^{5,6} There was an apparent increase in the incidence of chronic kidney disease (CKD) and haemodialysis dependent ESRD patients in Iraq. This is in addition to the vascular access complications of long term HD patients which represent the detrimental issues of long term haemodialysis therapy. In such situation the main question is what to do for a haemodialysis patient with exhausted vascular accesses?

In our department of vascular surgery at medical city – Baghdad, we are trying to overcome these challenges and hurdles. In the last two years we had received about 2000 patients with different presentation from creating an access to management of complications. This workload rendered our unit capable of having many achievements in the field of vascular access surgery in Iraq and these achievements are:

1. Training of many vascular surgeons and their peer nephrology graduates.
2. Increasing surgical experience through implementation of modern and advanced surgical procedures and concepts especially for those with exhausted accesses. These include the insertion of lumbal and azygous

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tunnelled dual lumen catheters, and the use of arterio-arterial axillary or femoral grafts.

3. Building a multiple team works with nephrology colleagues around Iraq to increase awareness, share decision and achieving best health care. This effort has culminated by establishing the vascular access clinic for the first time in the country in collaboration with the nephrology and renal transplantation centre in our hospital in the medical city. The objectives of such clinic are to look after and follow patients with vascular access and to deal with troublesome and tricky cases through a team work of expert vascular surgeons, dedicated nephrologists and motivated nurses.
4. In terms of research, more than ten papers about Iraqi experience in vascular access had been published and presented in national and international journals and meetings.⁷
5. Building a trustworthy win-win relationship and partnership with companies that manufacture and provide access materials (grafts and double lumens).

Despite such breakthroughs, we still have many gaps in the practice. A child who needs vascular access is a big issue for the vascular surgeon. The body physique of children and their special physiology in the early years of life will impose a pressure on the decision of access surgery in addition to the potential problems with anaesthesia.

The other issue is the erroneous practice of inserting subclavian catheters by inexperienced surgeons or physician in other governorates away from the capital city of Baghdad. Such practice is now nearly obsolete worldwide,⁸ as it carries the serious risk of venous stenosis and thrombosis which jeopardize the future opportunities to have good durable access. Currently, most of the patients who referred to our unit having exhausted accesses which mandates further surgical expertise, time and costs.

Haemodialysis is still the main form of renal replacement therapy (RRT) in Iraq. The program of peritoneal dialysis is not well developed and this may represent a rescue for those patients with exhausted access, patients with cardiac problems and certainly children. Renal transplant is still unable to keep pace with increasing patients with ESRD for many logistic

reasons. The awareness for transplant should be increased through governmental and society efforts.

The main future direction is the hope of having fully equipped endovascular unit with adequately trained surgeons who can deal with access thrombosis and stenosis and other complications via interventional approach.

As a vascular surgeon, I believe that our mission and ambition is to keep pacing the increasing demands of these patients and their dedicated physicians, and those targets can only be achieved through a continuous sharing of experience and training at national and international levels. This will make the vascular surgeons always updated regarding recent advances in the field. The best effort now is to keep fistula first as our highest priority, to have Iraqi guidelines and to have early referral.

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Abbreviation list: Arteriovenous fistula (AVF), Arteriovenous graft (AVG), Chronic kidney disease (CKD), Dialysis catheter (DC), End stage renal disease (ESRD), Haemodialysis (HD), National Kidney Foundation-Kidney Disease Outcome Quality Initiative (NKF-KDOQI), Renal replacement therapy (RRT)

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