

our new university cardiac center in the north of Jordan, as we are working together gaining and sharing knowledge and experience appreciating their help. King Hussein Medical Center is a military medical center.

Queen Alia Heart Institute is the only training institution in cardiac surgery and cardiology in Jordan. They started open heart surgery in our university center – Princess Muna AL-Hussein Cardiac Center, King Abdullah University Hospital / Faculty of Medicine – Jordan University of Science and Technology – Jordan/ Irbid, till the university cardiac surgeons staff are ready with their required training from different international cardiac centers in the world.

For that the trainings in cardiac surgery are starting first there. I started my training for two years in Queen Alia Heart Institute/ King Hussein Medical Center – Amman then I joined the registrar cardiac surgery training programs for another three years in North Shore Hospital – Sydney/ Australia. All the surgical fellows' comings for cardiac surgery programs had first four-five years general surgery experience. Then they are going to spend 3 years training within the institute. Their positions are permanent. That will give stability to the lengthy training in our cardiac surgery programs in Jordan worth the effort, including the vein harvesting techniques.

Initially, which is important the fellows in cardiac surgery started trainings in harvesting of the vein using longitudinal long incision for the first three months with cardiac surgeons group using this technique, as daily they are involved to harvest two veins (8-10 cases per week). Then they starting harvesting using multiple small incisions with cardiac surgeons group using the multiple small incision technique, but as we call it on suitable cases and these are thin patients, observing that the learning curve is 10 cases as they became safe with reasonable time harvesting (25-30 min). Then they are starting to harvest the vein even in any patients with help in especially obese patients initially for around ten cases.

According to our experience, the operators became proficient at multiple small incisions harvesting technique after performing 15 to 25 vein harvests with gradual improving in time consuming harvesting surgery as we notice that they need harvesting time initially 40 -50 min in the first 10 cases. Patience was required of the surgeons to allow the fellows to gain proficiency with the new technique.

The surgeon will let the fellows to start harvesting before the opening the chest and starting mammary harvest, which will give the fellows proper time and assistance. After performing 15 to 25 vein harvests, the vein harvesting time noticed is between 20-30 min.

Open vein harvesting was performed either by a cardiac surgeon or by cardiac surgery fellow's assistants. We don't let the vein harvesting technique to the general surgery residents presented in the operating theatre till now in our

center as they assisting the fellows in harvesting technique.

In our cardiac center study, I involved patients with longitudinal vein harvest performed by cardiac fellows with experience of two-four years in cardiac surgery.

The multiple small incisions are done by same cardiac surgery fellows (with experience of two-four years in cardiac surgery).

It is important to notice that the fellows coming for assistant in our cardiac center are these with 2-4 years in cardiac surgery programs and the new fellows that are starting their first year and even the initial period in second year training are not involved her in this study. Allow me to say that we can understand that as its starting time in a new university cardiac center with more reasonable precautions.

The cardiac surgeons experience in our center from the military staff is 8-20 years – mainly senior surgeons and the cardiac surgeons experience from the university staff is 5-6 years when the data was collected.

Again it is important to mention that the different techniques of harvesting is done by cardiac fellows in this study and not by cardiac surgeons, and it was retrospective with two group of surgeons (surgeon preference), one group still believing in longitudinal long continues incision for vein harvesting and other group they are only using multiple small incision as a technique of harvesting.

The learning curve as the operators became proficient at multiple small incisions harvesting technique depending on our observation after performing 15 to 25 vein harvests. But that after they getting proficient at long longitudinal incisions, and then I think they will be safe to practice this technique and to be involved in such a study using this harvesting technique.

I hope that I answered your valuable comments and thank you again.

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Top ten

O artigo “Novel no-touch technique of harvesting the saphenous vein for coronary artery bypass grafting”, de Fabio de Rueda, Domingos Souza, Ricardo de Carvalho Lima, Alexandre Menezes, Benny Johansson, Michael Dashwood, Emmanuel Thé, Mário Gesteira, Mozart Escobar e Frederico Vasconcelos, publicado nos Arquivos Brasileiros de Cardiologia, no volume 90(6), em 2008, foi um dos “top ten” o site de buscas BioMedlib (www.biomedlib.com).

Parabenizamos os colegas pelo feito!