

There is no interference with endosteal or periosteal blood supply. Micro movements at the fracture site stimulate early bridging callus by converting shearing into compression forces. In this technique, cosmetic damage is minimal, with minimal scarring at the entry points of the K-wires. This technique is cost-effective, as there is reduced hospital stay as compared to other methods; also implant is very cheap and easily available. Intramedullary K-wires provide a combination of elastic mobility and stability. In contrast with the techniques involving rigid fixation, stability is not only ensured by intramedullary K-wires, but also by the bone and the surrounding soft tissues. The K-wires provide internal elastic support, channeling forces, and preventing excessive displacement by automatic adjustment of bone fragments. The muscles acting as guy-ropes, help in spontaneous postoperative correction of slight angular deviation and retention of normal curvature of long bones. Living tissue provides stability and aids in rapid healing, and there is minimal disturbance of bone growth, thus, leading to rapid return of function. Hence, it is a physiological method of treatment. Axial stability is provided by 3-point fixation of bones by the K-wires, and rotational stability is achieved by angled wire tips, anchoring at different points inside the metaphyseal end of bones. Percutaneous closed K-wire fixation of diaphyseal fractures of the humerus is a safe, reliable, and effective method of fixation, and is recommended for all fresh fractures where internal fixation is indicated.

Received 30th January 2006. Accepted 15th August 2006.

From the Department of Orthopedic Surgery, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, India. Address correspondence and reprint requests to: Dr. Abdul Q. Khan, Department of Orthopedic Surgery, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, PIN-202002, (U.P.), India. E-mail: drabdulqayyum@rediffmail.com

References

1. Qidwai SA. Treatment of humeral Shaft fractures by closed fixation using multiple Intramedullary Kirschner wires. *J Trauma* 2000; 49: 81-85.
2. Shazar N, Brumback RJ, Vanco B. Treatment of humeral fractures by reduced reduction and retrograde intramedullary Ender nails. *Orthopedic* 1998; 21: 641-646.
3. Stannard JP, Harris HW, McGwin G Jr, Volgas DA, Alonso JE. Intramedullary nailing of humeral shaft fractures with a locking flexible nail. *J Bone Joint Surg* 2003; 85: 2103-2110.
4. Zatti G, Teli M, Ferrario A, Cherubino P. Treatment of closed humeral shaft fractures with Intramedullary elastic nails. *J Trauma* 1998; 45: 1046-1050.
5. Hall RE, Pankovich AM. Ender nailing of acute fractures of the humerus. *J Bone Joint Surg Am* 1987; 68: 558-567.

Negative suction versus non-negative suction after coronary surgery

Basel Harabsheh, MD, FRCS.

There is a controversy whether the institution of negative suction for cases of coronary artery bypass surgery (CABG) affect the rate of Mediastinal bleeding. It has largely been based on non-scientific principles whether to use negative suction of 20 cm of water or not. This paper helps to answer this question. The Pubmed and Medline searches revealed no study that addresses this question. Consecutive cases of CABG were studied accordingly, whether negative suction was applied (Group A) or not (Group B) from October 2003 until May 2004; and chest tube drainage over the first 24 hours postoperative, the mortality rates, re-opening for bleeding, and postoperative pericardial effusions were analyzed. Table 1 showed the cases performed in each group. Approximately 281 consecutive cases of CABG alone or in combination with other procedures were studied. Negative suction was applied in 78 cases (28%). The male to female ratio was 3.2:1. Pure CABG was carried out in 258 cases (92%). Concomitant procedures included Mitral valve repair and replacement and aortic valve replacement. Redo surgery was performed in 16 cases (5.6%). Left internal thoracic artery was utilized in 81%. Average blood loss in group A was 870 ± 270 ml, and group B was 630 ± 215 ml giving a $p < 0.05$. Overall, the re-opening rate was 19 cases, re-opening for bleeding occurred in 10 cases in group A, and 9 cases in group B (Table 1). Overall, there were 11 deaths (Table 1). Pure CABG had 7 deaths from a total of 258 cases, giving first time coronary mortality rate of 2.7%. A pericardial effusion occurred in 2 cases in group A, and 9 in group B (Table 1). Drainage of the pleura and mediastinum after cardiac surgery is usually achieved with plastic drains.¹ Due to the nature of coronary artery bypass surgery, there is a great potential for bleeding postoperatively. Negative suction applied to the chest drains to facilitate their drainage capacity and prevent the drains from clotting off. Clotting off from the drains can lead to hemodynamic instability, cardiac tamponade, closure of grafts, and development of pericardial effusions.²⁻⁵ There was no paper on Pubmed or Medline searches, that specifically looked at the effect of negative suction on drainage post coronary artery surgery or the effect on residual pericardial and pleural effusions. Our study demonstrated an increase in total drainage with the use of negative suction; however, there were no effects

Table 1 - The cases performed in each group.

Operation	Group A (negative suction)	Group B	P-value
CABG	69	189	
CABG + MV Repair	8	11	
CABG + MVR	1	2	
CABG + AVR	0	1	
Total (%)	78 (28)	203 (72)	
Blood loss (ml) mean \pm SD	870 \pm 270	630 \pm 215	$p < 0.05$
Re-opening (%)	10 (12.8)	9 (4.4)	$p > 0.05$
Pericardial effusion (%)	2 (2.5)	9 (4.4)	$p > 0.05$
Mortality (%)	4 (5.1)	7 (3.4)	$p > 0.05$

CABG - Coronary artery bypass grafting, MV Repair - Mitral valve repair, MVR - Mitral valve replacement, AVR - Aortic valve replacement.

on rates of re-opening for bleeding, development of pericardial effusion, and an overall mortality. It can be seen from our data, that the rates of residual effusions were higher in the control group; however, did not reach statistical significance. Although, there were more re-opening in the negative suction group, this also did not reach statistical significance. Despite the limitation of not being a randomized study, nonetheless, it shows that negative suction applied to the chest drains after CABG increase Mediastinal drainage, however, had no effect on re-opening rates and overall mortality.

Acknowledgment. We wish to thank all the nurses in the Queen Alia Heart Institute, Intensive Care Unit, King Hussein Medical Center, Amman, Jordan, for their help in making this study possible.

Received 14th February 2006. Accepted 6th August 2006.

From the Department of Cardiac Surgery, Queen Alia Heart Institute, Amman, Jordan. Address correspondence and reprint requests to: Dr. Basel Harahsheh, Department of Cardiac Surgery, Queen Alia Heart Institute, Amman, Jordan. Tel. +962 (6) 5715944 E-mail: basel_md@hotmail.com

References

- Munnell ER, Thomas EK. Current concepts in thoracic drainage systems. *Ann Thorac Surg* 1975; 19: 261-268.
- Akowuah E, Ho EC, George R. Less pain with flexible fluted silicone chest drains than with conventional rigid tubes after cardiac surgery. *J Thorac Cardiovasc Surg* 2002; 124: 1027-1028.
- Visser CA, Van Wezel HB, Koolen JJ. How soon should drainage tubes be removed after cardiac operations? *Ann Thorac Surg* 1989; 48: 540-543.
- Obney JA, Barnes MJ, Lisagor PG. A method for mediastinal drainage after cardiac procedures. *Ann Thorac Surg* 2000; 70: 1109-1110.
- Svedjeholm R, Hakanson E. Postoperative myocardial ischemia caused by chest tube compression of vein graft. *Ann Thorac Surg* 1997; 64: 1806-1808.

Amyloid-depositing plasmacytoma of cervical spine masquerades as a granulomatous inflammatory reaction

Ibrahim S. Tillawi, MBCh.

A case of plasmacytoma involving the lower cervical vertebral body is presented, in which the tumor resulted in lytic bony changes in the fourth cervical vertebral body with outward extension leading to the development of a large paravertebral soft tissue mass. Aspiration of the soft tissue component of the mass, showed a number of eosinophilic amorphous variable-sized clumps, inflammatory cells including large numbers of plasma cells, spindled shaped cells, multinucleated giant cells and blood, all suggesting that the lesion is benign in nature. Three pathologists, who independently had the lesion aspirated and cytopathologically examined, gave discrepant diagnosis, ranging from inflammatory granulomatous reaction to a highly lethal small cell variant of osteogenic sarcoma, not very much different in that from the differential diagnostic list given by the radiologist. This led the neurosurgeon to request frozen section assistance towards a definitive therapeutic surgical intervention; frozen section revealed the true nature of the lesion, which consisted of a plasmacytoma associated with secondary granulomatous reaction due to amyloid produced by the tumor cells. This communication emphasizes the need for the pathologists to be aware, not only of the characteristic appearance of amyloid on cytological preparations, but of its inherent capability of producing a granulomatous reaction; if its presence is overlooked, or not considered in the appropriate context, the pathologic diagnosis will change.