

difference between the median ratios of each aortic level within all age groups. Was there any correlation with the recoarctation or with the hypertension?

Factors influencing the process of recoarctation are tubular hypoplasia of the aortic arch, the surgical technique used, infective aortitis, complete resection of ductal tissue, suture material, suture technique, and width of the anastomosis. We do agree with their conclusion that none of the non-invasive methods used alone was sufficient to diagnose aortic recoarctation in every case, and they should be used as complementary methods. We would like to add that magnetic resonance angiography is indicated in all cases of suspected recoarctation. Currie and colleagues in 1985<sup>4</sup> state that maximal catheter peak gradient equals 10.3 plus Doppler gradient.

What was the indication for surgical intervention? They have seen cases associated with endocarditis or mesenteric enteritis preoperatively or postoperatively. What are the methods of spinal protection they used to lessen the possibility of paraplegia, and what is the upper limit in the aortic clamp time?<sup>4</sup>

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## Reply to the Editor:

In response to Dr Elsayed's questions, we would like to clarify that 111 patients had chest radiography postoperatively. In 57 (51.4%) patients the cardiothoracic ratio was 0.53 or less, and in 54 patients it was greater than 0.53. The left ventricular silhouette studied by the method was increased in 55 (49.6%) patients. The systolic ejection fraction (EF%) on echocardiography was available postoperatively for 111 patients (mean, 79%  $\pm$  6%; median, 79%; minimum, 45%; maximum, 92%). The left ventricular mass was also available for 111 patients (mean, 104.32  $\pm$  28.24 g/m<sup>2</sup>; median, 100.00 g/m<sup>2</sup>; minimum, 50.00 g/m<sup>2</sup>; maximum, 220.00 g/m<sup>2</sup>). The mean left ventricular diastolic diameter available for 110 patients was 39.7  $\pm$  9.1 mm (median, 38.0 mm; minimum, 20.0 mm; maximum, 63.0 mm). We decided to not include these variables because 78.8% of the patients had associated cardiac lesions that could interfere in the results. Furthermore, age and sex also interfere in the left ventricular mass, and the sample was not large enough to include all these variables. In relation to EF, we observed that in 24 patients with a mean age at the time of the operation of 14.9  $\pm$  16.4 months (median, 6.8 months; minimum, 25 days; maximum, 4.6 years), EF before the operation (mean, 48%  $\pm$  10%; median, 48%; minimum, 29%; maximum, 65%) had a favorable evolution postoperatively (mean, 79%  $\pm$  5%; minimum, 67%; maximum, 90%).

The aortic ratio median behaved the same way independently of age at correction, meaning that it decreased progressively up to the isthmus in each group. This pattern of behavior was also observed in normal adult patients<sup>1</sup> studied by means of computed tomography, but the relationship was always greater than 1.

The recoarctation percentages relative to surgical techniques were revised and are correct.

About the surgical indications, 79% of the patients were symptomatic. The main symptoms were heart failure with or without cyanosis in small babies (3 of them were in shock), fatigue, ache in legs, and

headache in older children. In 92 (81.4%) patients aortic coarctation was considered severe (gradient at coarctation site  $\geq$  50 mm Hg), in 12 (10.6%) patients it was moderate, and it could be not classified in 9 (8.0%) patients. Only 1 patient had infective endocarditis caused by *Staphylococcus aureus* after the operation.

The method used for spinal protection was to decrease the nasoesophageal temperature down to 33°C by means of topical pleural hypothermia. The upper limit of aortic clamping was no more than 25 minutes.

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## Assessing the value of neoadjuvant chemoradiotherapy and pathologic downstaging in the treatment of non-small cell lung cancer

### To the Editor:

We read with great interest the article by Machtay and colleagues,<sup>1</sup> which underlines the feasibility of trimodality treatment (concurrent chemoradiation followed by surgical intervention) in the cure of locally advanced non-small cell lung cancer (LA-NSCLC) and suggest the use of pathologic downstaging as a predictor for long-term survival.

Several studies have explored the combined trimodality treatment: in the ESSEN<sup>2</sup> and SWOG<sup>3</sup> trials, patients have been treated with cisplatin plus etoposide (the same drugs used in this study for 22 patients) with a similar radiation dose (45 Gy). They reported a rate of acute toxicity similar to that reported in this article, with esophageal toxicities as the most frequent. Esophageal toxicity could correlate with the adopted radiotherapy volumes, which

include the bilateral mediastinal nodal regions independently by their involvement. New data from RTOG trials<sup>4</sup> suggest moving the elective nodal irradiation focalizing to the gross tumor volume. In our recent published report,<sup>5</sup> exploring a combined modality treatment with limited irradiation volume, we have reported a grade 3 esophageal toxicity rate of 1.1%.

Moreover, surgical-related mortality, as the authors stated, could be attributed to the type of operation, pneumonectomy, more than to induction protocol. Also, data from neoadjuvant chemotherapy support these findings.<sup>6</sup>

Today, lymph node clearance<sup>7</sup> and pathologic downstaging have been proposed as surrogate endpoints for neoadjuvant treatment in LA-NSCLC. Data from SAKK and the University of Pennsylvania agree to group together pathologic stage I and II (or pN0-1) disease as a predictor of overall survival and event-free or local recurrence-free survival. If we look at the Memorial Sloan Kettering data on 470 patients treated with neoadjuvant therapy,<sup>8</sup> the multivariate analysis shows us a statistically significant difference in term of the relative rate of deaths between pathologic stage 0 and stage II to IV disease. No differences have been reported between pathologic stage 0 and stage I disease. According to this and our analysis, we share the hypothesis to use pathologic downstaging to stage 0 to stage I as a direct indicator of the effectiveness of any multimodality approach to LA-NSCLC.

Finally, 2 more issues regarding pathologic downstaging have to be underlined: its value as a predictor of distant recurrence and disease-free survival. In our analysis we have found a direct effect of downstaging on these parameters that stress the importance of local control on lung cancer, generally considered a systemic disease, and the ability of surgical intervention to achieve an eradication of lung carcinoma.

This last consideration could directly affect the quality of life of patients according to the following syllogism: "no cancer, no treatment; no treatment, no side effect"—and no doctors, too.

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## Studying the lumen in composite Y internal thoracic artery-saphenous vein grafts

### To the Editor:

We congratulate Gaudino and colleagues<sup>1</sup> for the splendid idea advanced in their study on composite Y internal thoracic artery (ITA)-saphenous vein (SV) grafts. The study of the lumen contributes enormously to the current series of studies describing the characteristics of composite grafts. However, we do not share some of the opinions presented in this article. We believe that it is not right to use the term

"flow steal" in this specific case, because the circulatory system is pressurized, is closed, and responds well to demand. We do not agree that SV grafts are the worst conduits. It is already known that SVs in aorta-left anterior descending coronary artery grafts are patent in 70% to 80% of the patients after 10 years. We also believe that the reduced diameter in distal ITA used to revascularize coronary arteries that have a proximal moderate stenosis (<70%) is physiologic and expected. The distal ITA lumen may be reduced as well when the supplied coronary artery has a poor runoff. If there is no flow demand, the ITA graft will decrease in caliber, because ITA has a huge ability to adapt itself to flow demand. It is commonly seen that an ITA supplying coronaries with proximal severe stenosis and a good runoff is usually dilated.<sup>2</sup> The fact that SV is less reactive does not compromise the coronary irrigation to which it is anastomosed, because the blood flow in SV is proportional to the coronary runoff and not to its diameter. Nevertheless, we agree with current studies that demonstrate ITA's capacity to adapt to flow demand.<sup>3</sup> We strongly believe that SV segments do not jeopardize the composite graft efficiency and have several advantages when used in such configuration: they are smaller, they suffer less pressure and shear stress, and they receive substances produced by ITA's endothelium (nitrous oxide, for example). These advantages are believed to increase SV graft durability.<sup>4-6</sup> One must also question results from an experiment that did not use a group control; in addition, the small sample does not allow for definite conclusions, indicating the need for more research in this area.

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