Nuss procedure for all? But all are not equal!

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Received 19 June 2011; accepted 4 August 2011

Keywords: Pectus excavatum • Nuss procedure • Chest wall deformity

We read with great interest the very well-written review of Kresopoulos and Goldstraw [1] and the interesting editorial comment of Robicsek [2] regarding the Nuss procedure.

Our experience in this field began in 1956 with the classical Ravich procedure modified over the years by using a steel strut bar seagull wings-like shaped [3]. In the last 5 years, we appreciated the thoracoscopic approach of a steel strut bar insertion in selected cases of young patients (from 15 to 21 years-old) with pectus excavatum.

We believe that some aspect of the choice between a so-called ‘minimally invasive’ and an ‘open’ procedure must be pointed out:

(i) The Nuss procedure is not ‘minimally invasive’ because both pleural spaces have to be opened to insert the bar as commented by Robicsek. When compared with the Ravich procedure, the Nuss is of course less invasive in terms of ostheotomy, blood requirement and maybe scar, but the patient must be informed that surgical risk differs from 0% and some complications may occurs.

(ii) Age at operation is a crucial point in the indication for a Nuss procedure. Donald Nuss presented his series with 10 years of FU in 1998 [4] with a very young patient population (1.5–15 years). The skeletal age of a patient can made the difference in terms of immediate, mid-term and long-term results.

(iii) The costs of the steel bars are acceptable when compared with those for longer in-hospital stay and blood transfusions, as required for other procedures.

Our flow chart for pectus excavatum repair is:

• the use of Nuss technique for patients among 14 and 22 years old;
• the use of modified Ravich procedure by using our steel strut bar for patients older than 22 years old.

In the borderline for skeleton-age patient population, a CT scan with 3D reconstruction must be performed in order to evaluate the calcium apposition in the ribs. This can play a significant role in the compliance of the complex sternum-ribs when a metal bar without ostheotomies is introduced, in order to avoid dislocation or excessive chest pain.

In conclusion, we think that careful patients’ selection is mandatory for satisfactory chest wall’s repair and the ideal surgical approach should be tailored on patient’s characteristics, keeping in mind that the Nuss procedure cannot be always used because patients are not all equal!

REFERENCES