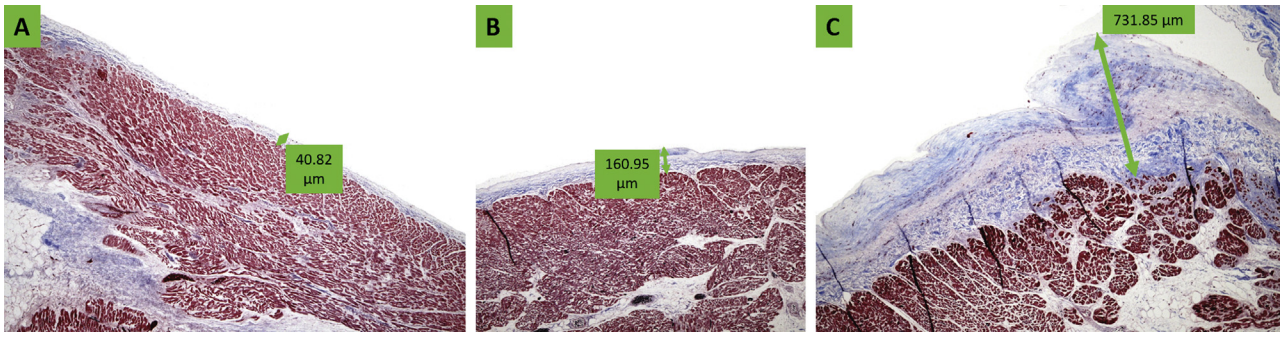

Fig 1. The 40-µm-thick tricuspid annulus (A) is a quarter of the thickness of the mitral one (B), far from the insertions of the valve cusps. (C) In close proximity to the insertions, the mitral annulus reaches a thickness greater than 700 µm (Azan trichrome stain).

annulus that explains some aspects of the valvular pathology. We have used autoptic material from adult subjects, without preexisting cardiovascular diseases, and aged between 50 and 70 years (7 men and 3 women). All around the tricuspid leaflets, we have observed a well-distinguished histological structure of the valvular annulus, where the valve cusps take insertion. It consists of mature connective tissue, in close continuity with the perimysium of the right ventricle and atrial septum. An equivalent, even if more robust, annulus can be observed around the mitral valve (Fig 1). First, the collagen component explains its progressive dilatation, which often follows the right ventricle dilatation [2]. Second, the tricuspid and mitral annuli are not rigid planar, but spatially deformable structures during the cardiac cycle, as also observed by echography [3]. Third, the tricuspid annulus, with its scanty vascular network, its prevalent collagen component, and paucity of immune cells, is an unsuitable site for the development of autoimmune diseases, such as rheumatism. From a surgical point of view, conservative treatments of the tricuspid regurgitation, currently performed with suture annuloplasties or prosthetic rings, have evident anatomic fundaments in the annulus conformation. Therefore, we appreciate the "undersized rigid non planar annuloplasty," considering that it approaches a more functional remodeling of the tricuspid annulus, ensures long-term durability, and adapts the size of the annuloplasty to the original normal size of the valve, which is compactible with the future remodeled right ventricle.

Luca Roncati, MD, PhD
Antonio Manenti, MD, PhD

Departments of Pathology and Surgery
Modena University
Policlinico
I-41124 Modena, Italy
email: antonio.manenti@unimore.it

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Reintubation After Early Tracheal Extubation in Congenital Cardiac Operations

To the Editor:

We read with great interest the article by Mahle and colleagues entitled "Early extubation after repair of tetralogy of Fallot and the Fontan procedure: an analysis of The Society of Thoracic Surgeons Congenital Heart Surgery Database" [1]. We would like to congratulate the authors for an excellent article looking at such a large cohort of patients undergoing two surgical procedures in which early tracheal extubation has a significant impact on postoperative outcomes. However, we believe that a limitation of the study is that it fails to address patients who were extubated as part of an early tracheal extubation strategy, but then required reintubation. There can be consequences related to failure of early tracheal extubation with increased morbidity and prolongation of hospital stay.

We have recently reported our experience with early tracheal extubation after cardiac operations in pediatric patients [2]. We noted the following points:

- Similar to the findings of Mahle and colleagues, patients in whom tracheal extubation failed were distinguished from patients in whom tracheal extubation succeeded by lower body weight and greater Special Tertiary Admissions Test score.
- The median lengths of stay and in-hospital mortality were significantly higher among patients in whom tracheal extubation failed.
- One factor that contributed to failure of tracheal extubation was the escalation of the sedative and analgesic agents to treat delirium, which appeared to contribute to respiratory insufficiency in some patients.

This last finding led us to standardize our practice for postoperative analgesia (especially in patients younger than 1 year) to include nurse-controlled analgesia with fentanyl, fixed-interval dosing of intravenous acetaminophen, and the addition of fixed-interval dosing of ketorolac on postoperative day 1, provided that there are no renal or bleeding concerns. Additionally, we have included routine use of end-tidal carbon dioxide monitoring using a nasal cannula in spontaneously breathing patients and more frequent arterial blood gas monitoring in an effort to identify early respiratory compromise.

There are certainly numerous advantages to early tracheal extubation, such as returning the patient to spontaneous ventilation and avoiding the potential deleterious effects of positive

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pressure ventilation, lower lengths of hospital stay and intensive care unit stay, greater parental satisfaction, and potentially decreased incidence of postoperative morbidity. But it is of paramount importance to identify patients who are not candidates for early tracheal extubation and to continuously improve their treatment.

Finally, with the shift in practice toward early extubation in children undergoing cardiac operations, we are faced with a population of patients who now require sedation and analgesia during their early recovery phase after cardiac operations. In addition, as our study has shown, there might be a role for delirium that may be defined in the adult population but is not clearly understood in the pediatric patients. Whereas different studies have shown that early tracheal extubation is safe and achievable, robust postextubation management strategies are keys to successful outcomes.

Roby Sebastian, MD
Peter D. Winch, MD
Aymen Naguib, MD
Joseph D. Tobias, MD

Department of Anesthesiology and Pain Medicine
Nationwide Children's Hospital
700 Children's Dr
Columbus, OH 43205
email: robysebp@yahoo.com

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MISCELLANEOUS

T3 Non-Small Cell Lung Cancer: Should Multimodal Therapy Be Different for Each Presentation?

To the Editor:

We read with interest the article by Jeon and colleagues [1] about the different prognoses for patients affected by T3 non-small cell lung cancer (NSCLC). The authors found that adjuvant chemotherapy was one of the most important independent prognostic factor for disease-free survival (DFS) in each group of patients with stage T3 disease.

However, patients with chest wall involvement had a 5-year DFS of only 36% (vs 55% of patients with tumors within 2 cm of the carina), and in the literature the best approach for these tumors has not yet been well defined, nor has a multidisciplinary approach with multimodal therapy been shown to be promising [2, 3].

By contrast, the proposed eighth edition of the TNM staging system for lung cancer [4] changes the stage for tumors with involvement of the main bronchus from T3 to T2, despite the distance from the carina, leaving in the T3 group tumors with chest wall involvement, separate nodules in the same lobe, or dimensions larger than 5 cm and less than 7 cm.

In our experience, in a multicenter cohort of T3N0 NSCLC patients with chest wall involvement, we found that patients with pathologic downstaging after induction therapy experienced better overall survival (OS) and DFS compared with patients with stable disease: 2-year DFS 80% versus 42.9% ($p = 0.03$) and 3-year OS 100% versus 50% ($p = 0.17$).

We think that this presentation of T3 is an optimal subject for induction therapies like chemoradiotherapy for the possibility of determining a precise field of action and obtaining a downstaging or a tumor shrinkage that permits less extensive resections, increasing the distance of the neoplasm to the surgical margins.

On the other hand, patients with separate nodules in the same lobe may benefit from induction chemotherapy, reducing the spread of metastasis and reserving different adjuvant treatments on the basis of the mediastinal pathologic stage.

So, as confirmed by the coming eighth edition of TNM staging system, T3 tumors represent a heterogeneous disease, and maybe multimodal therapies could be tailored for each subgroup.

On the basis of the data reported, we would really appreciate the authors' reflections on, and reaction to, the aspects debated.

Marco Chiappetta, MD

Department of Surgical Oncology
Thoracic Surgery Unit
Regina Elena National Cancer Institute-IFO
Rome, Italy
email: marco_chiappetta@yahoo.it

Stefano Margaritora, PhD

Department of Thoracic Surgery
Catholic University of Sacred Heart
Largo F. Vito n 1
Rome, Italy

Francesco Facciolo, PhD

Department of Surgical Oncology
Thoracic Surgery Unit
Regina Elena National Cancer Institute-IFO
Rome, Italy

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