but requires some attempts. Transesophageal echocardiography confirmed right pump placement and no interference between valve leaflet movements and outflow-tip antegrade flow. A trivial aortic regurgitation was detected, probably because of the relative stiffness of prosthetic compared with natural valve leaflets. The postoperative course was characterized by persistent oliguria that required central veno–venous haemofiltration, with slow improvement of cardiac function. Inotropic support was continued for 6 days and then slowly decreased. After 15 days of support, the patient was weaned from the device and discharged home. Follow-up echocardiography showed markedly improved left ventricular contractility and good performance of the aortic valve without signs of damage to the leaflets.[4]

We agree with the author that in the setting of postcardiotomy heart failure, deciding when to start a patient on mechanical support without wasting any precious time is the key to success. Recently, we have introduced in our clinical practice the IABP score as a very useful tool in the decision-making process of mechanical support in postcardiotomy heart failure. Hausmann and colleagues[3] defined an IABP score based on 4 parameters they found statistically significant to predict survival or death 1 hour after IABP implantation in patients with low-output syndrome in cardiac surgery. The Hausmann IABP score has been validated also by Siegenthaler and associates[5] in their study of 24 patients supported with the Impella LD for postcardiotomy heart failure. In addition, they were able to identify patients who will not benefit from the Impella Recover. Patients with a residual cardiac function of 1 L/min or less had an 88% chance of death. This observation is likely due to the fact that the Impella device provides insufficient support in the presence of virtually absent myocardial function.

In conclusion, we agree with the authors that timely insertion of such a device in the postcardiotomy setting, even in borderline situations or after stented biologic aortic valve prosthesis implantation, can provide a greater chance of survival in a poor-prognosis population. Careful clinical, hemodynamic, and residual cardiac function evaluation can allow surgeons to stratify patients for prolonged IABP-inotropic support or timely Impella implantation or even to receive a conventional left ventricular assist device if cardiac performance is dismal.

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Off-pump pulmonary valve implantation

To the Editor:

We would like to comment on the article by Berdat and Carrel[1] entitled "Off-pump pulmonary valve replacement with the new Shelhigh Injectable Stented Pulmonic Valve." They are to be congratulated for having embarked on a novel approach.

Because we have also reported recently on our first surgical experience implanting the Shelhigh valve, 2 points should be made.[2]

First, it is misleading to report on a pulmonary valve "replacement" in this setting. All 4 patients from the mentioned group had either undergone the transannular patch procedure during tetralogy of Fallot repair or commissurotomy. Likewise, we have also gained, to date, experience with a total of 6 patients (mean follow-up, 7.8 months; range, 2.0-13.5 months). All of these had previous tetralogy of Fallot repair. Therefore use of the Shelhigh valve in its current form allows only for valve "implantation" because the stented valve can only self-expand and the original pulmonary valve apparatus remains obviously in situ.

Second, we disagree with the judgment that a reduction plasty for an enlarged main pulmonary trunk of larger than 28 mm is mandatory to ensure an adequate position of the stented valve. Berdat and Carrel[1] made this statement on their experience with 1 patient only. In our experience with 6 patients (valve sizes, 23-31 mm), perioperative assessment included the whole right ventricular outflow tract, dimensions of the right ventricle to pulmonary trunk junction, sinus of Valsalva, pulmonary trunk, and pulmonary bifurcation. Interestingly, the final position of the stented valve was, in our experience, at different sites: at the level of the pulmonary valve, just above it, and even much more distally just in front of the bifurcation. Therefore we would rather emphasize the need for both transesophageal and epicardial echocardiographic navigation and "oversizing" of at least 2 mm to allow for a perfect fit of this new valve along its struts.

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Reply to the Editor:

We appreciate the comments by Schreiber and Lange. We believe that making a difference between "implantation" and

"replacement" in this context is rather a semantic one. In our series of 4 patients, with 3 having had a transannular patch at tetralogy of Fallot repair and one having had a commissurotomy at repair of valvular pulmonary stenosis, all patients have had a native, although stenotic, pulmonary valve. Therefore by implanting a pulmonary valve prosthesis within the native valve, this valve and its function are being replaced. With regard to an enlarged right ventricular outflow tract (RVOT), we believe that reduction plasty is necessary in patients with a diameter of greater than 28 mm for 2 reasons. First, the Shelhigh Injectable Valve is available in a maximal size of 33 mm. Following the recommendations of Schreiber with oversizing of at least 2 mm would mean that patients with an RVOT of greater than 31 mm could not be treated with this new technique. However, it is this subset of patients with chronic pulmonary regurgitation that present typically with enlarged RVOT and profit the most from this method. Second, it is well known from the literature that an enlarged RVOT is deleterious for the function of the right ventricle[1] and might be a source for ventricular arrhythmias and consecutive sudden death.[2,3] Surgical treatment should therefore not only be focused on pulmonary valve replacement, but also additional problems should be addressed concomitantly. Because reduction plasty can also be done safely and easily off pump, does not lead to stenosis, and reshapes a conical RVOT to a more tubular form in which the inserted valve prosthesis finds better seating, we would still recommend it. We of course also perform an in-depth analysis of right ventricular function and the morphology of the RVOT by means of transesophageal and transthoracic echocardiography and magnetic resonance imaging preoperatively to assess the feasibility of this procedure in an individual patient.

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Tracheal stents in patients with malignancy

To the Editor:

We read with interest the article by Sihvo and colleagues[1] titled "Fatal Fistula Between the Trachea and the Brachiocephalic Artery: Late Complication of a Second-Generation, Self-Expanding Metallic Tracheal Stent."

In recent years, the use of this new type of stent has become more frequent, with a consequent improvement of quality of life and survival in patients affected by inoperable malignant disease or benign disorders. The use of these stents has been encouraged by their easy deployment, which often can be performed through a fiberoptic bronchoscope. However, they are expensive, and sometimes their use can be questioned in patients with a relatively limited life expectancy and tendency to neoplastic tissue growth. The second-generation self-expanding metallic stents reach the largest diameter in 36 to 48 hours after deployment. Covered stents should be preferred, especially in the case of malignancy, to avoid tissue grow within the mesh of the stent and formation of granulations.

Traditionally, we have preferred silicone stents (Dumon stents; Novatech, La Ciotat Cedex, France), having placed more than 200 of them over a period of 13 years. Erosion was never a complication. Minor complications were secretion retention and granulations on one edge of the stent (1% in the neoplastic population); also, displacement never happened in patients with cancer. We also have a small experience with self-expandable stents (12 patients with 14 stents); however, they were used in a very well selected group of patients with difficult anatomic situations, and most of them had a tortuous posttransplant bronchial stenosis with a malacic component.

In the text of the article it is not clear whether the first two stents, and in particular the first one used in that patient, were covered or not. Could the authors clarify this?

Again, we encourage the use of silicone stents in patients with malignant tumors; they are less expensive, easy to place, and can be removed or changed if required by the clinical situation.

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Reply to the Editor:

We thank Drs Anile, Giacomo, and Venuta for their valuable comments, encouraging the use of silicone stents in patients with malignant disease. They state that silicone stents are less expensive, easy to place, and can be removed or changed if required by the clinical situation.

If possible, surgery is the preferred treatment for benign and malignant tracheal obstruction. However, many patients have inoperable tumors and must undergo palliation, for example, with stenting, either expandable metallic stents or silicone stents. Lately, we have used second-generation metallic stents placed with the aid of a flexible endoscope because patients with silicone stents seem to have severe secretion problems and migration. These complications lead to stent obstruction necessitating reinterventions with a rigid bronchoscope, increasing the total costs of the initially lower cost treatment. We know the disadvantages of second-generation self-expanding stents (tumor ingrowth, especially in uncovered stents, and difficult removal).[1] However, the quality of the short life after placement