appropriate length is chosen, while the waist accommodates the defect.

The ADO II is available in eight sizes with four waist diameters (3, 4, 5, and 6 mm) and there are two length options for each waist diameter (4 or 6 mm). In our case, the device length was 4 mm and the waist diameter was 6 mm (with a circumference of \( \sim 18.84 \) mm). However, the height of the mechanical valve was standard and was \( \sim 5 \) mm, and its sewing cuff height was almost 4 mm with the suture and endothelial cover. The paravalvular defect width was 5 mm [3]. Although not mentioned in the article, the lateral diameter was \( \sim 3 \) mm, and the circular length \( \sim 16 \) mm, which was smaller than the waist circumference of the device. We think that the defect circumference should be a little bit smaller than the waist circumference of the device and the maximum length of the device should be up to the length of the defect. If a device with a larger waist circumference is chosen, it will fit the shape of the paravalvular defect perfectly with the help of its self-expanding property, while its length increases and both discs prevent embolization.

The self-expandability, a slightly larger waist circumference, localized convergence at each disc and appropriate device length allow device fixation and conformism within the paravalvular anatomical defect, provide protection from embolization and prevent the occurrence of new paravalvular leakages under 3D-TEE and fluoroscopic guidance.

**REFERENCES**


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**LETTER TO THE EDITOR**

**Correlation sometimes implies causation: possible roles of correlation analysis between \(^{18}\)fluorine-fluorodeoxyglucose positron emission tomography/computed tomography and thymic epithelial neoplasms**

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We read with interest the paper of Fukumoto et al. [1] on the assessment of the usefulness of \(^{18}\text{fluorine-fluorodeoxyglucose positron emission tomography/computed tomography}\ (^{18}\text{F-FDG PET/CT}) in distinguishing the histological subtypes of thymic epithelial neoplasms (TENs). The authors divided the early-stage TENs patient cohort according to the WHO histological classification into two groups (low- and high-risk tumors), and the focal FDG accumulation was evaluated merely through the determination of the maximum standardized uptake value (SUV\(_{\text{max}}\)). The authors found that the SUV\(_{\text{max}}\) values of the low-risk and high-risk TENs were significantly different. However, the two figures reported in the paper regarding SUV\(_{\text{max}}\) in subgroups according to a simplified WHO histological classification and the SUV\(_{\text{max}}\) of the Stages III and IV TENs show large confidence intervals, and no statistical correlation of data was performed.

In our previous work [2], we evaluated the role of \(^{18}\text{F-FDG PET/CT}\) in the pre-treatment evaluation of TENs, finding that there exists a correlation between the SUV\(_{\text{max}}\)/tissue SUV ratio and the WHO classification of TENs. According to these findings, it should be of interest to know the authors’ data on the SUV T/M ratio. The SUV T/M ratio [3] can significantly improve SUV measurements, because the ratio of SUV\(_{\text{max}}\) by the mediastinal SUV, taken in a selected point that is in the aortic arch, reduces the variability of SUV determination. In fact, SUV normalization expresses the ratio between the activity concentrations in tissue compared with the background mediastinal activity that is the real activity of mediastinal tissue. The relationship between these variables can give a more correct interpretation of how strong the relationship is between them.

Nowadays, no definitive conclusion can be drawn about \(^{18}\text{F-FDG PET/CT}\) as a modality to predict the histological type
and tumour stage of TENs. Nevertheless, the ability to interpret the literature becomes vitiated without a deeper statistical analysis that could shed some light onto a widely used statistical procedure known as correlation analysis [4]. Based on the findings reported in the previous studies on haematological neoplasms [5], the determination of metabolic tumour volume as a volumetric parameter of 18F-FDG PET/CT could be, in future, an important independent factor for the preoperative evaluation of TENs. A new prognostic stratification based on the WHO stage or Masaoka staging system, and the volumetric parameter of 18F-FDG PET/CT might help optimize patient care by providing better prognostic information. Additional prospective studies with larger numbers of patients are needed to validate the prognostic utility of this promising functional biomarker derived from 18F-FDG PET/CT.

REFERENCES


LETTER TO THE EDITOR RESPONSE

Reply to Bertolaccini et al.

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We thank Bertolaccini et al. [1] for their interest in our paper [2] and appreciate the opportunity to reply. To begin with, we would like to point out some misunderstandings with regard to our paper. In our analysis, we divided 58 patients with thymic epithelial tumours into three groups according to a simplified histological classification: low-risk thymomas (Types A, AB and B1, n = 23), high-risk thymomas (Types B2 and B3, n = 21) and thymic carcinomas (n = 14). The maximum standardized uptake value (SUVmax) of the thymic carcinomas was significantly higher than that of the low-risk and high-risk thymomas (P < 0.001, respectively). No significant differences were observed between the low-risk thymomas and the high-risk thymomas (P = 0.204). In addition, as shown in Figure 3 in our article, the SUVmax of the Stages III and IV thymomas showed a higher trend towards Stages I and II thymomas (P = 0.060). We excluded thymic carcinoma cases in this analysis because the majority of them were in advanced stages. Although no significant differences were observed between the low-risk and the high-risk thymomas, we suppose that significant differences might appear if the number of patients increases. We think that the large confidence interval in our box–whisker plot is due to the small number of cases.

As often said, SUVmax is a very nonuniform value between institutions. It depends on the dose of radionucleotide that is given, the machine, the timing of scanning and the radiologist reading it and so on. Calculating the SUV tumour mediastinum (T/M) ratio is one of the methods to ensure the universality of SUVmax in [18F] fluoro-2-deoxy-o glucose positron emission tomography-computed tomography (18F-FDG PET-CT) [1]. We cannot provide these data in our cohort, as they were not available in our previous cases. However, as other authors have demonstrated [3–5], there is little difference between the results of SUVmax T/M ratio and nonadjusted SUVmax. We believe that nonadjusted SUVmax in 18F-FDG PET-CT can play an important role in the differential diagnosis between thymomas and thymic carcinomas. The area under the curve in receiver-operating curve for the differential diagnosis between thymomas and thymic carcinomas was 0.951 in our cohort (data is not shown), a result that is considered to be quite good.

We completely agree on the necessity of prospective studies with a larger number of patients, as thymic epithelial tumours are quite a rare disease. Discussions between not only thoracic surgeons, but also radiologists and pathologists are required to ensure the universality of radiological and pathological diagnoses.