PCR webinars

What do we know about tricuspid valve disease: a case-based webinar series

Episode 1 - Natural history and prognosis of tricuspid valve disease

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PCR TRICUSPID Focus Group

Question 1: When Tricuspid Valve Intervention is mandatory ?

*Current 2021 ESC/EACVTS given **Class I indications** for intervening on TR, to:*

1) *those patients with severe primary OR secondary TR undergoing left-sided valve surgery, and*
2) *isolated severe, symptomatic primary TR without severe RV dysfunction.*

***Class IIa recommendations** include:*

1) *patients with moderate primary TR or mild-moderate secondary TR with dilated annulus, undergoing left-sided valve surgery, and*
2) *asymptomatic or mildly symptomatic patients with severe primary TR with dilated RV who are appropriate for surgery, and*
3) *symptomatic severe secondary TR who have RV dilatation but NOT severe RV or LV dysfunction or pulmonary disease/hypertension.*

*Transcatheter devices are currently a **Class IIb recommendation** for severe, symptomatic secondary TR who are considered inoperable.*

Question 2: Is there a cut off of RV basal diameter that precludes treatment ?

Please see the prior answer: there is no "cut-off" for RV dilatation that would preclude treatment at this time.

Question 3: Do you see trauma causing TV dysfunction in real life practice ?

Although car accidents and other trauma (i.e. comodio cordis) may cause rupture of the chordae and flail leaflets, the most common cause of trauma in my experience is RV myocardial biopsy of transplanted hearts.

Question 4: I fear most patients are seen and referred late. Should we need parameters to intervene early?

YES: the risk score developed by Prof. Topilsky and another online risk score of Alexander Lauten which he has provided an online calculator for: https://thetruerisk.com.
Other risk scores are in development and should help us determine much earlier, when to intervene.

Question 5: How can we use RV coupling parameter in der routine for evaluation ?

I would not use it quite yet until we have a few more studies:
Ours will be published hopefully soon (JACC, first author M. Brener).
The main published study for now is Fortuni et al (open access at: https://www.ajconline.org/article/S0002-9149(21)00212-5/fulltext) and they found TAPSE/PASP <0.31 mm/mmHg is "uncoupling" associated with poor outcomes.

Question 6: Does VC better reflects coaptation gap, than EROA in patients with TI ?

No, the vena contracta in TR is very irregular, and so a single VC measurement is not reliable (although currently what guidelines recommend).
We have used 2 orthogonal views and averaged, with a cut of 9 mm most consistent with severe.
See: Dahou et al (open access: https://www.sciencedirect.com/science/article/pii/S1936878X18310830?via%3Dihub)

Question 7: What is in your opinion the cut off value of pulmonary resistance to deny treatment in this patients?

Very tough to answer.
The only study we have now is Stocker et al (doi: 10.1016/j.jcin.2020.09.033. Epub 2020 Dec 9. PMID: 33309317) who shows a very high mortality with a transpulmonary gradient of >17 mmHg however they did not provide a PVR cutoff.

Since PVR = TPG÷CO, you could try to determine your patient's risk by PVR if you know the CO, but the study suggested that for every 1 WU increase in PVR, the HR was 1.19.

Question 8: If we have a patient with severe TI and a left side disease that cannot be adequately addressed, should TI be repaired ?

GREAT question and we don't know the answer, except that that the natural history studies show that there are worse outcomes for patients with left sided ventricular or valvular disease. We don't know if addressing TR will improve those poor outcomes.

Question 9: Why not A1 and A2 valve in this patient? Many times we see big anterior leaflet with two indentations in surgery room.

Dividing the anterior from the posterior leaflet is determined by the position of the anterior papillary muscle--in this case it was between what was called the A (anterior) and P1 (first posterior scallop/leaflet).

Question 10: What do you think regarding cavi therapy with a dedicated device (i.e. Tricvalve system)?

This device is in trials, but in general, since it does not treat the tricuspid regurgitation and it's goal is to reduce passive liver congestion, this will likely be used in patient that cannot get another device.

Question 11: Could you show us the gap measurement of this patient and how you do that?

Use the short-axis view at the tips of the leaflets and measure the S-L (septolateral) gap which is the typical direction you would align a TEER device.
We would also measure the A-P anteroposterior) gap to get a sense of how many devices (or whether to use a narrow or wide device) might be needed.

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