Traumatic Tricuspid Regurgitation: When to Operate

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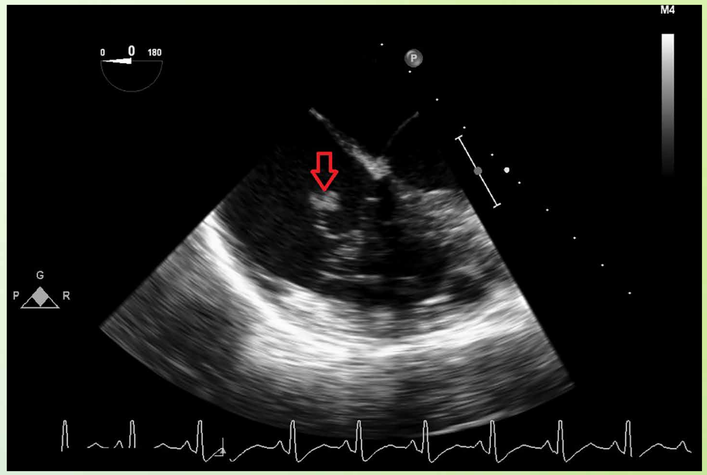
INTRODUCTION

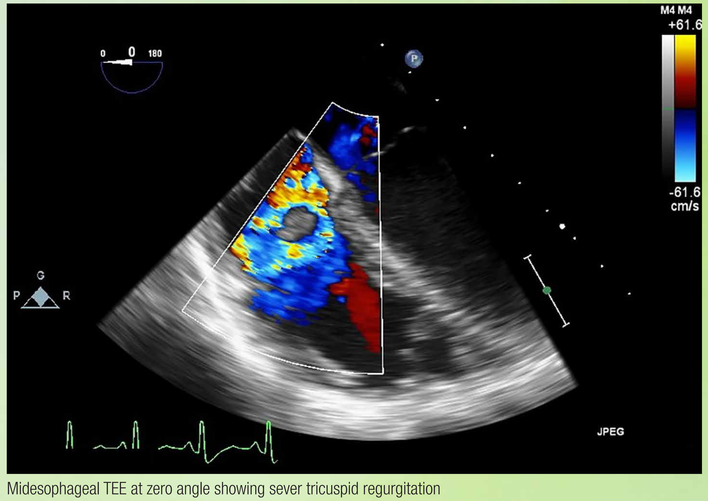
- Traumatic tricuspid regurgitation (TTR) is a rare complication of blunt chest trauma and results from damage to the subvalvular tricuspid apparatus.
- We present a rare case of severe TTR without hemodynamic compromise managed conservatively.

CASE PRESENTATION

- 26 year old male admitted to trauma surgery service after major motor vehicle accident with subarachnoid hemorrhage, chest trauma with pneumothorax and femoral and scapular fractures.
- Cardiology was consulted for rising troponin I to 4.5 ng/ml.
- TTE showed severe tricuspid regurgitation with flail segment with normal left ventricle function.
- TEE confirmed the avulsion of the papillary muscle of the tricuspid valve with flail septal leaflet.
- He had uneventful recovery and discharged from the hospital in stable condition.



Midesophageal TEE at zero angle showing flail leaflet with avulsion of the papillary muscle



Midesophageal TEE at zero angle showing sever tricuspid regurgitation

DISCUSSION

- Our patient remained hemodynamically stable and showed no signs of right sided heart failure. Right ventricle (RV) was mildly enlarged with normal RV function.
- Decision was made to observe him clinically rather than surgical intervention.
- He was seen a year later and showed severe TR along with decreasing size of RV and normal RV function.
- Common cause of TTR include papillary muscle rupture, chordal rupture with flail leaflet, rupture of the valve leaflets, or complete destruction of the valve.
- In our case, it was septal papillary muscle rupture.
- Timing of surgical intervention is based on severity of RV failure.
- Severity of damage to the tricuspid valve determines surgical repair vs replacement.

CONCLUSIONS

- TTR should be considered in the differential diagnosis of heart failure on trauma floor.
- It can go undetected and discovered many years after trauma.
- Clinical presentation of severe TTR is variable and can present acutely as severe RV failure to asymptomatic incidental finding.
- Due to its rare occurrence, little is known about the management and clinical outcome.
- Available literature favors early intervention if signs of right heart failure and enlargement are noted.
- Frequent follow up is required if conservative management is planned.

NO DISCLOSURES

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