Pericardial Effusion Leading to Cardiac Tamponade Secondary to Graft-versus-Host Disease. Autopsy Findings.

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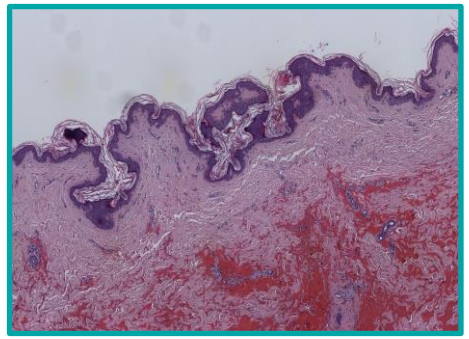
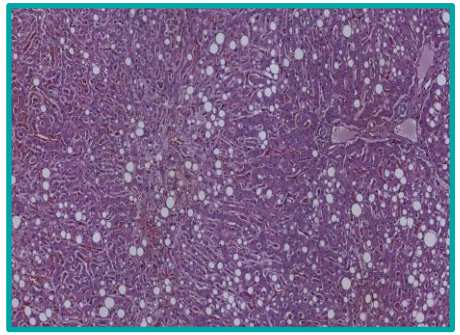
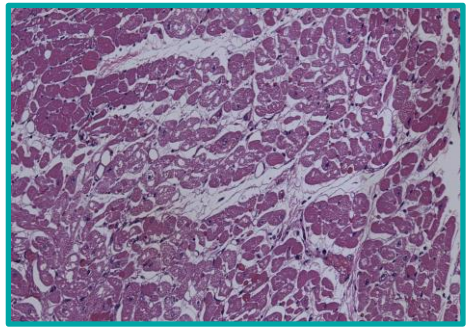
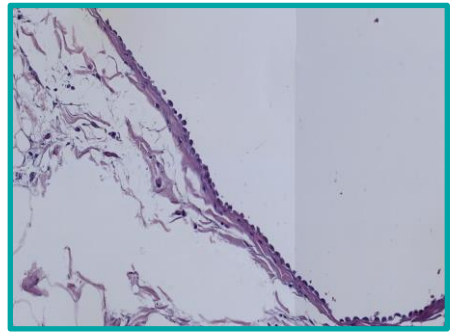
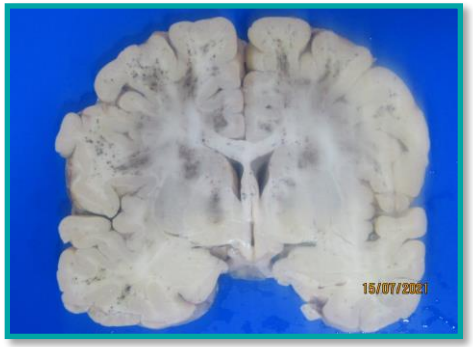
BACKGROUND

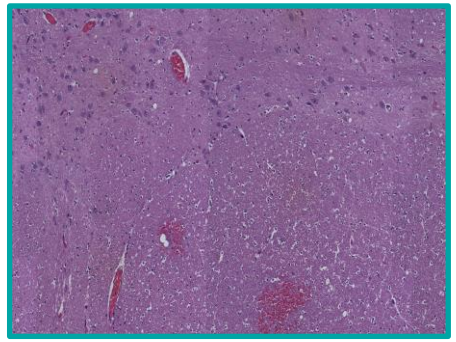
Graft versus host disease (GVHD) is an adverse immune reaction that occurs in transplant patients when donor lymphocytes come into contact with recipient cells. This complication can be seen in up to 60% of patients. One of its rarest complications is pericardial effusion, which can lead to cardiac tamponade.

36-year-old woman who was diagnosed with a nodular sclerosis variant of Hodking's lymphoma in 2018, without response to chemotherapy treatment. The patient underwent an allogeneic hematopoieitic transplant, but four months later presented fever, intestinal toxicity and cutaneous rash. Finally, she was diagnosed with GVHD confirmed by skin biopsy. In the following months, the clinic progressed, presenting multiple organ involvement. Eventually, she came into our hospital/emergency room by hematuria and abdominal pain poorly controlled with treatment, where 24 hours after admission, she began with hypertransaminasemia, respiratory insufficiency, hypoxia-ischemia brain and undeterminate heart arrest causing the death of the patient.

METHODS

Protocol examination of the autopsy specimen, obtaining paraffin samples. H-E staining. Gross examination during autopsy revealed 250ml of clear serous fluid from the pericardium and petechial hemorrhagic stippling in the brain slices, unevenly distributed on all its parenchyma.



RESULTS

Microscopic examinations revealed, skin with vacuolar degeneration of the basal cell layer, dyskeratotic keratinocites and mild, mononuclear, superficial, perivascular infiltrate supported findings with graft-versus-host-disease. Lungs presented marked vascular congestion with intra-alveolar hematic extravasation. Manifestations of disease liver. Additionally, the pericardium displayed reactive mesothelial cells and an accompanying lymphocytic inflammatory infiltrate. Finally, there were microbleeds shown in both gray and white matter, affecting all encephalic structures.

CONCLUSION

Graft versus host disease can present acutely or chronically, the skin being the most frequently affected organ. It is a life-threatening complication with rates of up to 15%. Compared to other complications seen in allogeneic hematopoietic stem cell transplantation, cardiac complications are rare, occurring in 1% of patients.

The progression of pericardial effusions to cardiac tamponade depends on the rate and volume of fluid collection. As low as 150 ml of rapid fluid buildup can cause tamponade, whereas up to 2 L of slow collection may not lead to tamponade. In our patient, the physical exam findings were significant for a possible cardiac tamponade.

It is possible that the inflammatory process involving the pericardium was caused by immune-mediated mechanisms most likely associated with Graft versus host disease but no direct evidence exists to prove large pericardial effusion were a manifestation of GVHD.

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