

# Compromised breast flap treated with leech therapy, hyperbaric oxygen, topical nitroglycerin, and pentoxifylline

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## BACKGROUND

Compromised flaps are complications where Hyperbaric Oxygen (HBO<sub>2</sub>) is often indicated. Although limited to animal models, the utilization of leech therapy (*Hirudo medicinalis*) and concomitant HBO<sub>2</sub> has shown superior outcomes (Lozano DD, Plastic & Rec Surg, 1999). We present a case of successful breast flap salvage utilizing a combination of leech therapy, HBO<sub>2</sub>, topical nitroglycerin and pentoxifylline.

## METHODS

A 34-year-old female, one day post-status breast reduction surgery developed left nipple dusky discoloration and venous congestion, indicating imminent flap failure. Her surgeon ordered the placement of topical nitroglycerin, oral pentoxifylline, and referred her for HBO<sub>2</sub>. After her first HBO<sub>2</sub> treatment, there was

## METHODS (CONTINUED)

improvement to the superior portion of the areolar flap, with little improvement on the inferior portion where the venous congestion had remained unchanged. To address this, we decided to add leech therapy and the topical nitroglycerin was discontinued.

Ceftriaxone for *Aeromonas* prophylaxis was started and leeches were attached 2 at a time, and removed from the area once feeding had ceased. These were applied three times per day for 3 days while receiving HBO<sub>2</sub> twice per day for 6 days.

## RESULTS

The case presented was a successful salvage of a breast flap that healed by 8 weeks without requiring further surgical intervention.

## CONCLUSIONS

We present a case of successful healing of an ischemic breast surgical flap using HBO<sub>2</sub>, pentoxifylline, topical nitroglycerin and leeches. This is the first case published to our knowledge of a salvaged compromised breast flap in this manner.