



# External Auditory Canal Diving Related Barotrauma A Case Study



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## ***Introduction / Background:***

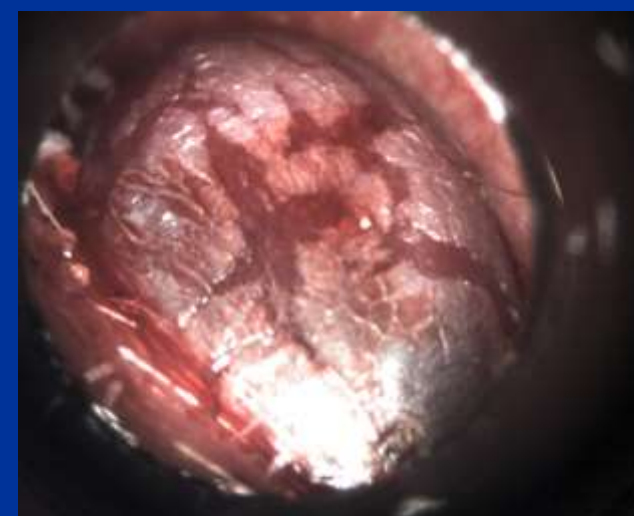
We report a case of asymptomatic barotrauma of the external auditory canal (EAC) involving a public safety diver following a non-provocative dive profile.

## ***Materials and Methods:***

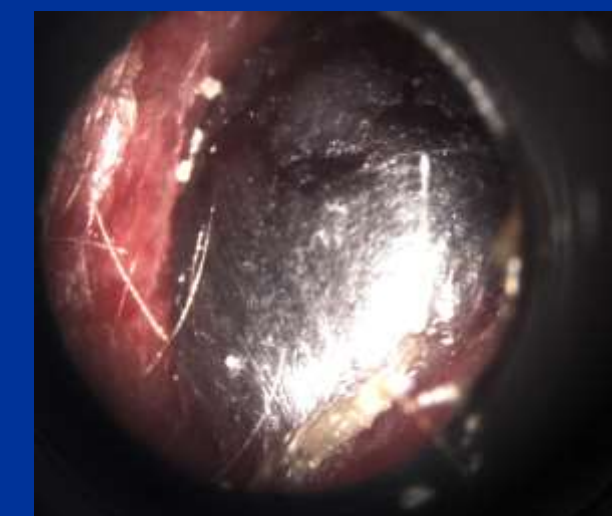
A 36 year old male presented to our dive clinic with left sided hemorrhage from the EAC following scuba diving. The patient works as a public safety diver and presented following a routine fresh water dive training exercise. Based on diver obtained history he had completed a total of 84 dives, the deepest being to a depth of 104 feet with no known barotrauma. On the day of injury, the patient completed only one dive to 67 feet of fresh water (FFW). The descent took 1 minute and 14 seconds. His total ascent time was 6 minutes and 17 seconds. His total dive time was 12 minutes. He was using a dive computer and reported no ascent rate warnings. He had no difficulty equalizing middle ear pressure on the day of injury. On arrival at surface he was asymptomatic. When leaving the dive site his fellow officers noticed bleeding from his left ear.

## **Post-Dive Evaluation**

**Right**



**Left**

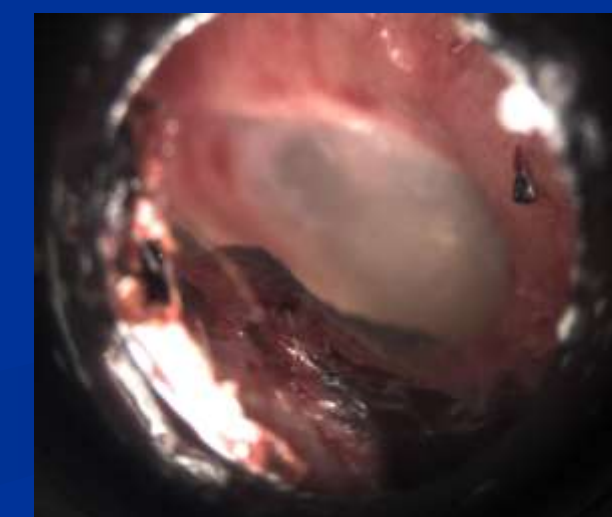


## **Post-Evacuation Evaluation**

**Right**



**Left**



## ***Results:***

On examination he was found to have bilateral O'Neill Grade 2 barotrauma with intact hearing. The bilateral bleeding subsided, however the source of bleeding could not be identified. He was referred to Neuro-Otolaryngology who diagnosed the patient with bilateral external auditory canal hematomas obscuring the TM's. These were evacuated after which the TM's were easily visualized and intact. Both the audiogram and tympanogram were within normal limits.

## ***Summary / Conclusions:***

We present a case of asymptomatic external auditory canal hematomas from shearing forces after a non-provocative dive profile without hearing deficits. We have not found any significant literature on dive related barotrauma resulting in external auditory canal hematomas. Further studies are warranted.