This phenomenon may be accelerated after diving, during the decompression phase. In an analysis of the effects of the ascent rate and post-dive exercise on the incidence of DCS in rats using ordinal logistic regression, higher rates of DCS and mortality were seen in rats which engaged in post-dive exercise than in control rats.[3] Accordingly, DCS following post-diving exercise may be induced by the

Commentary:

Dr Yanagawa and his colleagues present an interesting hypothesis, and our group has had some discussions around this vacuum phenomenon and decompression sickness (DCS). I am aware of at least one diver in whom

symptoms appeared after a 'self-manipulation' of his lower lumbar spine. The diver exited the water symptom-free and approximately 1.5 hours after the dive went to the hotel swimming pool. Before getting into the water, he self-manipulated his lumbar spine as he was in the habit of doing, provoking the familiar cracking sound. Some minutes after this, symptoms appeared and he went to the chamber for treatment. DCS was confirmed in the lumbar zone.

Several hypotheses can be raised: the 'habitual' manipulations may have changed the tissue properties in that zone and facilitated inadequate desaturation;[1] the symptoms would have appeared anyway despite any action; the low back pain was not DCS but another mechanical lesion that could be cured by the rapidly applied hyperbaric treatment, etc. We clearly understand that this episode can by no means confirm the hypothesis, it is just an observation, no objective link can be set nor, of course, eliminated.

Reference

1 Kawchuk GN, Fryer J, Jaremko JL, Zeng H, Rowe L, Thompson R. Real-time visualization of joint cavitation. *PLoS One*. 2015;10(4):e0119470. doi: 10.1371/journal.pone.0119470. eCollection 2015.

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