

Magellan's circumnavigation: what lessons 500 years later for maritime medicine?

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It has been 500 years since Magellan's expedition came to an end. In 1519 at the start of this journey, which had both mercantile and exploratory aims, Magellan sailed with 5 ships and 242 men [1]. He counted on circling the earth and hoped to prove that the passage through the east would be profitable for Spanish trade. Unfortunately, on 9th September 1522 only 35 European sailors returned on board the vessel Victoria. What had happened to the other crewmen? What about Magellan? Briefly, the crew was reduced by desertions, imprisonments and deaths in combat or during mutinies. But there were also 2 great explorers' and seafarers' diseases both arising from a limited diet: scurvy and beri-beri. After 500 years, what have we learned from this journey?

Scurvy presents with haemorrhages, loosening of teeth, etc. The pathology is caused by deficiency of vitamin C. Beri-beri manifests itself by asthenia, oedema and, in severe cases, encephalopathy, caused by a deficiency in vitamin B1 (thiamine). If only a few sailors died during this historic journey because of these diseases, it must be remembered that even today sailors are affected by these deficiency pathologies [2]. Thus, there are case reports of scurvy up to the 21st century [3]. In 2013, during the 12th International Symposium on Maritime Health in Brest, a cluster of scurvy cases among fishermen was described [4]. It should be remembered, however, that treatment and especially prevention has been simple and effective since Lind showed the benefits of lemon juice [5]. As for beriberi, it does not appear that there are any recent cases in seafarers. Many doctors have contributed to its eradication. However, thiamine deficiency can also occur with alcohol dependence [6]. As many seamen have alcohol consumption disorders, maritime physicians should remain vigilant for this risk.

Finally, if we leave aside the mutinies and desertions, the Magellan's expedition was marked by clashes. Magellan himself was killed in battle with the King of Mactan Island, located in what is now the Philippines. It is quite ironic, after 500 years, to remember that European voyagers may have treated the people of the Philippines with disdain and later conquered them, when so many of the seamen of the 21st century are now Filipinos. Today, maritime transport represents 90% of the volume of world trade, much of it between China and the Europe via the Suez Canal. Crews are often made up from seafarers of many nationalities, so perhaps we have learned, in 5 centuries, to live together in an increasingly globalised world? Unfortunately, sociological research shows that seafarers, although they almost represent the ideal of internationalisation and globalisation, are employed with different rights depending on their nationality and rank [7]. This creates inequalities between members of the same crew. How then should the maritime industry face a common future, perhaps by binding international labour laws? The maritime health community, and indeed the whole maritime sector, should keep in mind that good health also requires a state of social fulfilment and security.

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