

"DOCTOR AT SEA" a monthly Column in The Islander Magazine

Sudden death and the heart

Great football clashes are settled with nail-biting penalty shoot-outs and finely balanced tennis stars are separated by sudden death service points. Sudden death has become a dramatic sporting event but sudden death remains a harsh and massively distressing occurrence - all the more so because it comes to some individuals who appear to be fit and well and are networking with equally healthy contemporaries for whom the sudden loss of a friend or relative comes like a wake-up call as well as a personal loss.

One of the commonest causes of sudden unexpected death is a heart attack. A clot flies off a furred-up artery and lodges in a heart artery causing loss of blood supply to a section of heart muscle. The damaged heart muscle causes pain in the chest. This can be a crushing central chest pain which radiates into the neck and jaw and down the left arm – and one third of heart attack victims experience interference in heart electrical coordination and the rhythm of the heart becomes chaotic and unproductive. This is cardiac arrest and the chaotic rhythm is ventricular fibrillation. A person in ventricular fibrillation has no effective output from the heart and will die within minutes without help. Cardiopulmonary resuscitation (CPR) can maintain viability until a defibrillator is available to shock the chaotic heart rhythm back into shape but resuscitation on its own is unlikely to bring the casualty back.

Defibrillators are increasingly common in community settings in the UK and are also onboard many yachts in the industry and the benefits are obvious, especially with older yacht personnel but perhaps more especially with older guests. CPR can prevent irreversible brain damage until a defibrillator can be applied and more and more yachts are signing up for training to deal with these urgent situations. This has a knock-on effect for the level of expertise available on land – for example the young patient I had in recently who was mountain biking up near Bunyola a week or so after a training course and came across an older cyclist who had collapsed with a heart attack.

Fortunately many heart attacks are heralded by warning symptoms and, in particular, by pain from heart muscle when it has a compromised blood supply caused by arterial furring with cholesterol material. This pain is called angina and it is very much like heart attack pain in site and character but, because it is not caused by a complete arterial block, it is temporary (up to fifteen minutes duration). It is also eased by resting, unlike heart attack pain which has no chance of sorting the clot in the artery by resting and the victim can endure up to an hour or so of disabling pain and associated anxiety and shock.

There are many medications available to manage angina and the common quick remedy is to apply a glyceryl trinitrate (GTN) spray under the tongue. GTN absorbed in the mouth and travels almost immediately to the heart arteries and increases their calibre to allow better perfusion of the heart muscle and thereby ease the pain from the undernourished heart. A heart attack victim will often say that their chest pain has persisted despite several doses of GTN and it can also be a useful diagnostic test when trying to establish whether or not chest pain is cardiac. Angina which becomes more frequent and more severe over a few days or weeks may well be an additional warning sign of an incipient heart attack and would justify medical review.

The pain of an actual heart attack requires an injection of a strong morphine-type painkiller and the easing of the pain also eases the distress and can reduce the extent of damage to heart muscle. These strong painkillers inevitably cause nausea and vomiting so it is good practice to give an anti-sickness medication either by injection or under the tongue at the same time as the painkiller and, if the person is not already taking aspirin, one small aspirin tablet can reduce the clotting quality of the blood and reduce the long-term damage. The patient is often pale and drawn and short of breath so oxygen is also indicated if available and then admission to hospital if possible, bearing in mind the potential for cardiac arrest. If hospital admission is not practicable then regular observation of the patient and their vital signs combined with medical support via one of the excellent 24/7 support organisation is essential until the patient can be disembarked.

This is all very challenging but clearly very satisfying given a good outcome. The skills required for resuscitation are taught in Elementary First Aid Courses and the treatment of angina and heart attack is covered in Medical Care Onboard Ship Courses. These skills may be crucially necessary on a few important occasions.

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