Tortoise, bite wound injuries

A Hermann’s tortoise – testudo hermanni - (named “Alexis”) is found, seriously injured, in a garden in May 2011. Size and weight correlate strongly with keeping conditions, as temperature, food and moisture (Lambert, 1982), so we could only assume the age. As the sexual characteristics were definite the tortoise must be at least five years old. The weight was about 440 gram and the length of the carapace 12cm.

The left forelimb is severed in the middle of the humerus. The shell (carapace) is damaged at multiple locations, some with puncture like fractures. At the rostral carapace and the plastron the bone structure is heavily damaged. Laterocaudal injuries on both sides of the shell, right about 2x2cm, left a bit smaller. The skin on the breast is completely detached up until the neck. All injuries are heavily contaminated with soil and already fly maggots have infested the wounds. The type of injury leads to the suspicion that a dog played with the turtle and has been chewing on her.

The general condition of the tortoise is moderately compromised and the carapace slightly deformed, which might be symptoms caused by suboptimal keeping conditions.

Product: L-Mesitran Soft
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Method
Wound treatment remediation takes place with a subcutaneous general analgesia meloxicam (Metacam), i.m. antimicrobial marbofloxacin (Marbocyl) and a lukewarm subcutaneous infusion with NaCl & 5% glucose, vitamin B (Vanavit B) and ascorbic acid (Vitasol C).

After thorough rinsing with saline and removal of the maggots a sharp debridement was done. The wound was covered with a honey based gel (L-Mesitran). The next day the injured limb is amputated at the shoulder joint under general anesthesia (isoflurane).

The next three weeks the tortoise is bathed every day for 10 minutes in common mallow (Malva sylvestris) and after that a dressing with honey based gel is applied. Once every week (under light sedation) sharp debridement is done and non-vital shell parts are removed.

Results
The wound healing progresses well, the patient eats independently after one week. Two weeks after the initial treatment a device is moulded (Technovit) to replace the forelimb.

After a month good wound healing and the animal visits the garden in an enclosure (weather permitting). The injured shell areas are always covered with the honey based gel. A solid bandage with L-Mesitran gel on a surgical dressing and self adhesive tape protects the damaged plastron. After six weeks of intensive home care nursing, the tortoise was released in a good (and safe) garden.

Discussion
Tortoises are long-lived species, anthropogenic impacts, such as land development, climate change or road traffic challenge the success of life history strategies of tortoises (Loehr, 2007). Injuries to the carapace are common in veterinary practice and can be quite severe, with high mortality (Holt, 1979).

In literature one case describes a carapace injury successfully treated with Vacuum Assisted Closure and silver dressings (Adkesson, 2007), a treatment that obviously restricts movement. We would like to add the option of a honey based gel therapy. In this case the honey gel made sure infections were prevented not only to the soft tissue, but the carapace too. The tortoise fully recovered from its bite injuries with mainly honey gel as a treatment for the carapace and plastron in only 6 weeks time.

References