Periodontal Disease - A Case Study

Use of an alloplast material to treat a 309 furcation defect

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Periodontal disease is often defined as the loss of the gingival epithelial attachment resulting in pocket formation and furcation exposure. Initiated by sub-gingival plaque accumulation (bacteria), progression of attachment loss is due to stimulation of the host’s immune system (neutrophils, immunoglobulins, cytokines etc.). In the majority of small animal practices, teeth with deep periodontal pockets, alveolar bone loss and furcation exposure are extracted; but with correct diagnosis, dental radiographs, specific materials and instruments, these teeth can often be successfully treated and saved.

Wombat Stewart, an 13yo, desexed female Dachshund dog was referred to our clinic for treatment of re-occurring halitosis. She had been treated by the referring veterinary clinic with regular teeth scaling and polishing, but no homecare plan was successfully implemented. Pre-anaesthetic blood work using IDEXX in-clinic machines showed an increase in pre-renal BUN. All other parameters and general clinical examination were within normal parameters.

Wombat was admitted, commenced IV fluids and anaesthetised for an oral examination. A dental chart was completed. Dental probing indicated generalised gingivitis (increased bleeding on probing), calculus accumulation, gingival recession and attrition (Figure 1). Particularly relevant to this case, oral examination confirmed previously extracted maxillary 4th premolar, 1st and 2nd molar teeth bilaterally; increased periodontal probing depths (7 – 9mm on the buccal surface) and furcation (F2) exposure, plaque/calculus accumulation and gingival recession of 309 (Figure 2). Dental radiographs using Sopix2 digital sensor of 309 showed horizontal alveolar bone loss (Figure 3).
Synergy

Synergy™ is an advanced biosynthetic bone graft comprised of calcium phosphates that occur naturally in real bone. It is a biphasic combination of β-Tricalcium Phosphate (β-TCP) and Hydroxyapatite (HA). These intelligent bioactive materials have the proven ability to stimulate bone formation. The β-TCP quickly releases calcium ions that cause clotting and release of platelet-derived growth factors. This cascade of mineral release and blood clotting provides the perfect environment for stimulation of bone healing. The cancellous-like porosity and surface structure encourage inward cell migration. As the β-TCP resorbs more space is created to support angiogenesis and bone formation. The micro particles of HA provide a more long lasting osteoconductive structure.

SANOS

Is a liquid resin when applied at the gingival margin seals it to prevent subgingival bacterial entry, whilst still allowing oxygen and crevicular fluid to permeate. It is applied at the time of the dental procedure by painting into and along the gingival margin and into the sulcus. It lasts 6 months.

Maxiguard
Oral Cleansing Gel

Oral gel containing zinc gluconate and ascorbic acid acts to decrease halitosis and aids in the healing of inflamed gingival whilst slowing plaque accumulation.