



Gynura Procumbens in Stomatology.

Gynura Procumbens (Merr.), is widely distributed in South East Asian countries such as Indonesia, Malaysia and Thailand.

The plant has traditionally been used for the treatment of eruptive fevers, rash, kidney disease, migraine, constipation, hypertension, diabetes mellitus and cancer (Perry, 1980).

Pharmacological studies have indicated that *G. Procumbens* has antioxidant (Rosidah et al., 2008), anti-herpes simplex virus (Nawawi et al., 1999), anti-hyperglycemic (Hassan et al., 2010), anti-inflammatory (Iskander et al., 2002), antiulcer (Mahmood et al., 2010), anti hyperlipidemic (Zhang and Tan, 2000) and blood pressure reduction capabilities (Kim et al., 2006).

Several studies have shown that *G. Procumbens* leaf extract contains number of pharmaceutically actives chemical constituents, such as flavonoids, saponins, tannins, and terpenoids and sterol glycosides (Akowuah et al., 2002).

G. Procumbens extract showed remarkable wound healing activity. The acute toxicity profile of this plant could be considered favorable judging from the absence of adverse clinical manifestations. (A. A. Zahra , F. A. Kadir , A. A. Mahmood , etc. 2011)

Antimicrobial activity

The research shows that *G. Procumbens* extract exhibits chemo-suppression effects toward malarial parasite strains of *Plasmodium falciparum* 3D7 and *Plasmodium berghei* NK65; possibly via direct inhibition of GSK3 or indirect action on pi3K/Akt pathway.

Besides, the ethanolic extract of aerial plant parts has been demonstrated to exhibit virucidal and antireplicative activity against herpes simplex virus HSV-1 and HSV-2.

This was validated in a clinical trial on patients with recurrent herpes labialis where treatment with *G. Procumbens* herbal gels reduced the number of patients infected with HSV (Jarikasem S., Charuwichitratana S., etc, 2013).

Meanwhile, the antibacterial activities of *G. Procumbens* have also been tested with the extract exhibiting antibacterial activity against gram-positive and gram-negative bacteria such as *Bacillus cereus*, *Pseudomonas aeruginosa*, *Vibrio*

parahaemolyticus, and *Salmonella typhi* (Zheng G.-D., Shuai L.-Q.-W., Li D.-M., Zhu Y.-T. 2014).

The antifungal activity of *G. Procumbens* against fungi such as *Candida albicans* and *Aspergillus niger* was also observed.

The findings of these studies have provided supporting evidence that substantiate the traditional use of *G. Procumbens* in the treatment of infections by pathogens such as herpes simplex virus and malaria parasites (Kaewseejan N., Puangpronpitag D., Nakornriab M., 2012).

Anti-inflammatory activity

In Thai folk medicine, *G. Procumbens* is commonly used to treat inflammation (Wiat C. 2006).

It was shown to prevent the increase in ear thickness of mice caused by croton oil-induced inflammation (Iskander MN, Song Y, Coupar IM, Jiratchariyakul W. Plant Foods Hum Nutr. 2002).

Besides, topical application of ethanol extract on the wounds of tested animals showed significant dermal healing signs, less scar width, and considerable faster healing rate when compared with control group treated with saline (Zahra A. A., Kadir F. A., Mahmood A. A., Al hadi A. A., Suzy S. M., Sabri S. Z., et, 2011).

Furthermore, the histological analysis has also revealed there is a lesser amount of inflammatory cells at the granulation tissue of wound area and higher amount of collagen with angiogenesis.

Since 2012 *Gynura* is cultivated in Cyprus at the plantation of Via Vitae Estate Ltd., Limassol area.

Over the 2013-2018 products from *G. Procumbens* has been tested and used in dermatology (C. Petrou, Cyprus, 2013), in paediatric (A. Stephanou, Cyprus 2018), in gynaecology (P. Contides., Cyprus 2018).

Materials and methods

The following products, manufactured by Via Vitae Estate Ltd. has been used in this trial:

1. **Dentatin** – mouthwash, water based extract of *G. Procumbens*.
Major active ingredient – **Gynuron**, concentrate, consisting stabilized nanoparticles of silver and copper.
2. **Proseptum** – *G. Procumbens* tincture.
3. **Tooth paste**, manufactured with *Gynura Procumbens* water extract.

Clinical cases

This trial covers 81 patients - gingivitis, stomatitis, operative and post extraction wounds, post traumatic ulcer, post cleaning wounds of gum tissue.

Application of Dentatin took place two - three times a day.

No side effect noted. Patients tolerated the treatment well.

In all cases we admit a visible actions - bleeding, irritation and inflammation cessation, mucous membrane regeneration, leaving mouth cavity clear without any complications.

Specially in patients with poor hygiene and gingivitis we note accelerated healing within the first week of using the product.

The following cases are described below

1. Gingivitis

Patient PS . Swallowed and bleeding gingiva.

After the deep cleaning, Proseptum was applied to the affected area and Dentatin was offered for the daily treatment.

Rapid recovery of the gums was noted for the next day, similar to day 3 as in a standard practice.

Before the treatment.



24 hours after application.



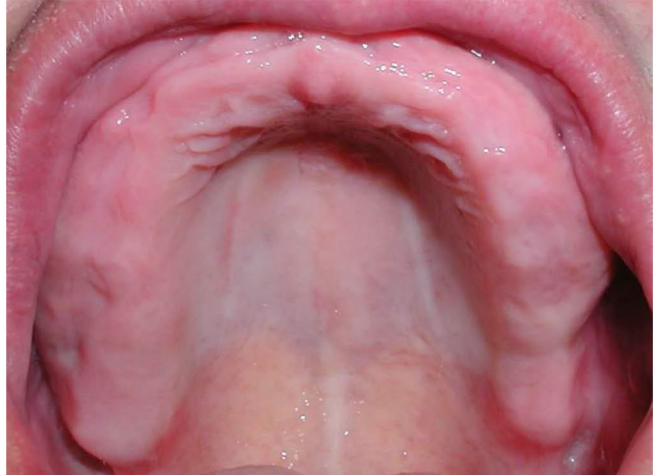
2. Surgery

Teeth extraction

Patient MB.

After teeth extraction Proseptum was applied to the sockets and Dentatin was offered for the daily treatment.

The fast healing process without inflammation and bleeding was noted, including excellent gum recovery.



Day 6 after extraction

Implantation

Patient TE.

After the implants pins installation, Proseptum was applied to the working area. Dentatin was used for the daily treatment during 8 days.

For the next day there were no signs of bleeding and inflammation, wounds looked clean, pain level was noted as minor, similar to day 4 at the standard practice.

After implants pins installation



After 8 days



3. Gingivectomy

Patient FS.

After gum surgery Proseptum was applied to the affected areas and Dentatin was offered for the daily treatment.

The results of the application are the following :

- Faster recovery, for the next day wounds looked clean, no bleeding, no signs of inflammation, similar to the standard methodology for the 3d-4th day after the surgery;
- The pain was considered as minor.

After surgery



4 days after



4. Post traumatic ulcer

Patient FG.

Dentatin has been offered for the treatment, 3-4 times daily.

Before the treatment



3 weeks after



5 weeks after



5. Post cleaning gum tissue wounds recovery.

Six patients has being offered to use tooth paste, manufactured with Gynura Procumbens water extract after deep cleaning.

Faster recovery was noted, for the next day wounds looked clean, no bleeding, no signs of inflammation, similar to the standard methodology for the 3d day after the procedure.

Conclusion

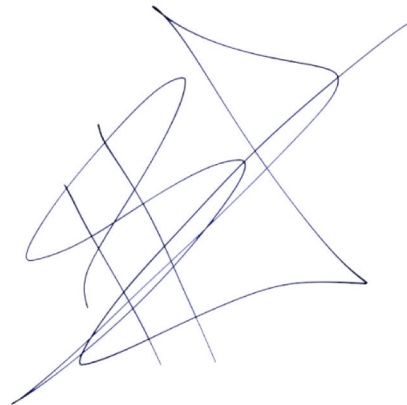
Products of Gynura Procumbens demonstrated obvious antibacterial, anti-inflammatory, regenerative as well as hypoallergenic, soothing, calming and moisturising properties and being natural and safe product, may have good potential in stomatology practice.

In general Dentatin is recommended itself as a powerful water-based natural antiseptic for every day use, we're using it in a daily practice in our clinic.

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