

## PHYTOTHERAPY EVOLUTION IN THE HEALING PROCESS IN SURGERY

### *A evolução da fitoterapia na cicatrização em cirurgia*

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Brazil has the most diverse forest reserve of planet. Many species used for medicinal purposes are consumed with little or no evidence of its pharmacological properties. The use of medicinal plants is not restricted to rural areas or regions devoid of pharmaceutical and health care. They are also used extensively in urban areas, as an alternative or complement to allopathic medicines. The medicinal potential of a species is related to active ingredients capable to produce different pharmacological effects, such as analgesics, antiseptics, diuretics, expectorants, sedatives, digestive, healing, emollients, antidiarrheals and others. Among the bioactive substances that can be found in various parts of a plant may be cited: alkaloids, saponins, tannins, glycosides, flavonoids and essential oils.

However, most of the data regarding to the use of these plants is still based on empirical and popular saying. The interest in discovering new substances makes scientists of various areas look for plant species in brazilian flora with medicinal properties used by the population. This is what can be seen in several studies that evaluate the healing potential of plants capable of stimulating surgical repair.

In the State of Maranhão, Brazil, in 2004, an initial project was conducted where was tried to analyze four plants with therapeutic potential<sup>1,2,3,4</sup>. They were: *Passiflora edulis* (passion fruit), *Jatropha gossypifolia* (mixer purple), *Orbignya phalerata* (babassu) and *Schinus terebinthifolius* Raddi (aroeira). Eight years later, few advances have been reported in the literature. However, *Schinus terebinthifolius* Raddi (aroeira) was further studied by Santos<sup>5</sup>, trying to identify the active fraction of this plant. The results were very promising and envisage new possibilities of its therapeutic use.

Thus, many studies have been done about the aroeira, studied the morphology and anatomy of the seed, barks and leaves, chemical and microscopic examination of the plant, barks development and fruits development, even clinical drug trials (phase I) of an herbal compound by aroeira, mint and eucalyptus, showing the importance of this plant. New drugs may arise from this product, some in the market using the fraction.

The aroeira is known as a toxic plant; many of its properties or its curative effects can be attributed to the different polyphenols that are distributed unevenly in its different organs. Polyphenols are substances of great importance for the physiology of the plant contributing

to the defense mechanism. Through phytochemical screening, barks revealed that are rich in tannins, phenols and steroids; thus carries the medicinal use of this plant popular for its antiinflammatory, astringent and hemostatic. These active ingredients serve as chemical markers for quantification and standardization of this part of the plant, its extracts and herbal products obtained from it.

In addition, several authors have studied the compositions of plant parts, isolating compounds such as essential oils, flavonoids, the enriched flavonoids fractions, shinol, masticadienic acid, isolated biflavonoids and triterpenes.

This issue of the ABCD brings in its pages 140-146 the most recent experimental research on this plant in the study of healing of the stomach.

The seed was planted, the results show scientific evidence, the need to advance is so well established that the scientific community should arouse interest and further studies on the clinical applicability of our flora. It is expected that the final product can be directed to your highest final goal: to bring health and wellness for the Brazilian population.

## REFERENCES

1. Branco Neto MLC, Ribas Filho JM, Malafaia O, Oliveira Filho MA, Czezczko NG, Aoki S, Cunha R, Fonseca VR, Teixeira HM, Aguiar LRF: Avaliação do extrato hidroalcoólico de Aroeira (*Schinus terebinthifolius* Raddi) no processo de cicatrização de feridas em pele de ratos. Acta Cirúrgica Brasileira 2006, 21:17-22.
2. Coutinho IHLS, Torres OJM, Matias JEF, Coelho JCU, Stahlke Jr. HJ, Agulham MA, Bachle E, Camargo PAM, Pimentel SK, Freitas ACT: Efeito do extrato hidroalcoólico de Aroeira (*Schinus terebinthifolius* Raddi) na cicatrização de anastomoses colônicas. Estudo experimental em ratos. Acta Cirúrgica Brasileira 2006, 21:49-54.
3. Lucena PLH, Ribas Filho JM, Mazza M, Czezczko NG, Dietz UA, Correa Neto MA, Henriques GS, Santos OJ, Ceschin AP, Thiele ES: Avaliação da ação da Aroeira (*Schinus terebinthifolius* Raddi) na cicatrização de feridas cirúrgicas em bexiga de ratos. Acta Cirúrgica Brasileira 2006, 21:46-51.
4. Nunes Jr. JAT, Ribas Filho JM, Malafaia O, Czezczko NG, Inácio CM, Negrão AW, Lucena PLH, Moreira H, Wagenfuhr Jr J, Cruz JJ: Avaliação do efeito do extrato hidroalcoólico de *Schinus terebinthifolius* Raddi (Aroeira) no processo de cicatrização da linea alba de ratos. Acta Cirúrgica Brasileira 2006, 21:8-14.
5. Santos OJ, Ribas Filho JM, Czezczko NG, Branco Neto MLC: Avaliação do extrato de Aroeira (*Schinus terebinthifolius* Raddi) no processo de cicatrização de gastorrafias em ratos. Acta Cirúrgica Brasileira 2006, 21:39-45.