POWDER MICROSCOPIC EVALUATION OF HERBAL PLANT MATERIALS OF AMURTHASHTAKA KWATHA

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Abstract - Background and justification: Herbal medicines have been commonly used for treatment and prevention of diseases, health promotion and enhancement of the span and quality of life. Objective: This study has focused on investigating powder microscopic characteristics of herbal constituents of *Amurthashtaka kwatha*. Methodology: The constituent herbal plants such as bark of *Azadirachta indica*, rhizome of *Cyperus rotundus, Picrorhiza scrophulariiflora* and *Zingiber officinale*, seeds of *Holarrhena antidysenterica*, heartwood of *Santalum album*, stem of *Tinospora cordifolia,* and whole plant of *Trichosanthes cucumerina* were purchased from three Ayurvedic shops and two different natural habitats.The powders of the authenticated herbal plants were studied through Zeiss Axio microscope with a camera for the evaluation of general and specific cells, tissues, and cell inclusions which are specific for the particular herb. Results and discussion: Crystals, fibres, starch grains, tracheids and xylem vessels in *A. indica*; cork cells, endodermis cells, fibres, epidermal cells, parenchyma cells, tracheids, starch grains andxylem vessels in *C. rotundus*; fibres, starch grains and crystals in *H. antidysenterica*; fibres, crystals, thickenings, tracheids, starch grains, thickenings and xylem vessels in *P. scrophulariiflora*; crystals, fibres, starch grains, xylem vessels, oil cannels and ray parenchyma in *S. album*; cork cells, xylem vessel, starch grains, tracheids and fibres in *T. cordifolia*; xylem vessels, exocarp, thickening, starch grains, fibres and trichomes in *T. cucumerina* while starch grains, thickenings and xylem vessels in *Z. officinale* were identified as specific identification characters in each plants. Conclusion: Present pharmacognostic study would be beneficial to establish authenticated standards for identification, detection of contaminants and adulterations as well as standardization of herbal ingredients of *Amurthashtaka kwatha*. The powder microscopical examination of constituent herbal plants of *Amurthashtaka kwatha* confirmed their identity and morality as original plants.

Keywords: *Adulteration, Amurthashtaka kwatha, herbal medicines, polyherbal* formulation and powder microscopy