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Pharmacognostic standardisation of *Juniperus virginiana* Linn. – in Homoeopathic parlance

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Abstract

Standardisation is the quintessential aspect that ensures uniform standards. The pharmacognostic and physico-chemical studies facilitates correct usage of plant species and raw material to ensure batch to batch consistency.

Juniperus virginiana Linn. also commonly known as 'Red Cedar' in English belongs to the family Cupressaceae. The leaves and young aerial parts are used as medicine in homoeopathy in apoplexy, convulsions, strangury, tetanus and uterine haemorrhages.

The leaves are needles, narrow and sharp at the tip. Stems are rounded with grayish white to brown bark with small lenticular openings covered with imbricated leaves.

Epidermal cells in surface on adaxial are polygonal with straight to curved sides with pitted walls and containing crystals in few. Stomata are anomocytic and present only on adaxial side as linear patches in 2-3 rows. While those on abaxial similar except few with wavy sides, surface striated and in few with inulin. Few peltate scaly hair occur towards the basal half of leaf.

In T.S. leaf is elliptic, ribbed at midvein on both sides. The hypodermal area possess 1-2 layers
Of sclereidal cells. The mesophyll contain cells with sphaeraphides and prisms. 2-4 secretory canals with one conspicuously beneath midvein is present.

The young terminal stem axis is very thin sheathed by leaves and in T.S. oblong and at terminal region with small stem portion merged with two leaves. The vascular tissue possess xylem at centre in radial rows with surrounding phloem possessing crystalliferous cells.

The young stem is 0.5 cm thick, quadrangular with scaly bark, enclosed by sheathing leaves at angles. The hypodermis possess a layer of sclereidal fibers. Sphaeraphidal idioblasts occur n the mesophyll. Secretory canals are present in hypodermal areas. Wood is abundant with tracheids and the rays are uniseriate with crystalline contents.

Mature stem is up to 1 cm thick and consists of outermost shriveled cork with cortex underneath. The xylem is abundant enclosed by the phloem. Pith is scanty at the centre.

The powder microscopic and organoleptic characters are given for the drug. The physico-chemical parameters of raw drug viz., extractive values, ash values, formulation besides wt. per mL., total solids, alcohol content along with HPTLC fingerprinting and UV studies have been undertaken for mother tincture for the first time.