Papaya Leaves in Dengue

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Carica Papaya has been regarded as one of the most valuable and wholesome tropical fruit. It appears to have originated in Mexico and Costa Rica. By sixteenth century, papaya cultivation spread worldwide in tropical and subtropical countries. Fruit is large fleshy and pear shaped, being the most edible product of papaya tree. Unripe fruit has greenish skin which changes to yellow or orange as it ripen. Ripe fruit contains essential nutrients like protein, predigested form of invert sugar, high vitamin C, and minerals.

Remarkable medicinal virtues are ascribed to all parts of this plant like- leaves, ripe fruit, seeds, unripe fruit and its milky juice and roots. Milky juice or latex contains a potent digestive enzyme chymopapain and papain similar to pepsin. This juice can digest protein 200 times its own weight. Plant leaves contain cystatin, tocopherols, ascorbic acid, flavonoids, cycogenic glucosides and glucocynolates.

In the recent years dengue has become most rapidly accelerating infection. Approximately 2.5 billion people live in dengue endemic regions with about 100 million new cases adding each year worldwide. Cases have quadrupled between 1980s and 2007. There is no definitive treatment and tetravalent vaccine is currently undergoing phase 2 trial.

Use of papaya leaves as natural cure for dengue had received much interest both, amongst public and lay press. Researchers have indicated that juice of Papaya carica leaves help to increase platelet levels and have demonstrated effects in small scale studies. However, fact remains that dengue is a self limiting disease with spontaneous rise in platelets occurring during recovery. Therefore the role of papaya leaves could not be substantiated based on few positive preliminary results. The need of the hour was to commission multi-centric, large scale, double blind, placebo controlled, randomized trial to provide evidence for or against papaya leaves. Two such trials conducted are published in June, 2016 issue of JAPI. Both the studies have shown beneficial effect and rise in platelet count compared to the control group with very few adverse effects. Papaya leaves extract (CLE) is postulated to increase expression of ALOX 12 and PTA FR gene responsible for platelet production due to its action on megakaryocytes. Result appears bright in the management of dengue epidemic considering the positive results of CPLE, its easy availability and affordability. Further experience and trials particularly, in grade-III and grade-IV dengue will be more supportive. Research on herbal drugs from India is so far an un-trodden field full of potentialities.

Interestingly in 1956, Dr. Lyman Smith injected rabbits in the cartilage of their erect ears with enzyme obtained from the crude latex of Caria Papaya (chymopapain), and noted that the cartilages dissolved. In spite of this report, orthopedic surgeons remained skeptical about the process of chemonucliolysis. After initial trials in Canada and Britain, new trials in USA for proteolyses of nucleus pulposus in cases of PID were also impressive. FDA then approved chymopapain and the Academy of Orthopedic Surgeons accepted that enzyme could revolutionize the treatment of herniated lumbar discs. However, with the arrival of minimally invasive surgery for PID, chemonucleolysis became obsolete.

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