Oroxyllum indicum Vent. — A potential anticancer medicinal plant

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The paper presents the use of Oroxyllum indicum bark decoction for cancer treatment and an interview of a cancer patient from Senapati district, Manipur, India, who has been cured by the treatment. Also, it presents the various local uses of the plant by different ethnic groups in Manipur.

Keywords: Oroxyllum indicum, anticancer plant, Shakbang, Maram Naga, Senapati Manipur.

Oroxyllum indicum Vent., a member of family Bignoniaceae, is a well known medicinal plant used for the treatment of various ailments by the people of India\(^2\). However, the present report of its effective use in curing a dreaded disease like cancer is the first of its kind and the information will be encouraging to pharmaceutical companies as well as to the common people.

During a botanical exploration tour to Senapati district (1999) which is situated in the northern part of Manipur state, the author learned from Maram Naga villagers that a man of about 50 years of age had suffered from nasopharyngeal cancer and was cured by taking the decoction of O. indicum bark. The plant is known in Maram Naga vernacular as “Shakbang”. The paper is based on an authentic interview of the man by the author and highlights the potential use of O. indicum as an anticancer medicinal plant.

O. indicum is a small or medium sized deciduous tree, 5-15 m high, laxly branched or un-branched, branches erect or sub-erect; bark greyish corky; leaves 1-2 m long; leaflets 5.5-15 cm long, ovate, broadly ovate-orbicular, obtuse to acuminate, base usually oblique, often cordate or sub-cordate, pale beneath; racemes terminal, stout, up to 2 m long, erect; flowers 8-10 cm across, greenish-yellow purple tinged, fleshy; pods black, drooping, 40-80 cm long; seeds white winged all around, 3-8 cm long (Fig. 1). The plants are mostly sighted along the riverbanks or slopes of the hills. Except in the western drier area, the plant is distributed throughout India and south east Asia\(^3\).

Regional and other names of the plant are as follows: Assam – Bhatghila, dingari, toguna; Ayurveda – Syonaka; Bengali – Nasona, sona, sonpatti; Gujarati – Aralu, tentu; Hindi – Arlu, saona, ullu; Kannada – Bunepale, sonepatta, tigdu;
Malayalam – Palagapaiyani; Marathi – Tetu; Nepal & Lepecha – Tatola; Oriya – Phapni, phonphonia; Punjab – Mulin, tatmorang; Sanskrit – Shyonaka; Tamil – Achi, peiarlanthei; Telugu – Dundilum, pampini.

A. Interview of the cancer patient

The author visited the home of a man of about 50 years of age who had suffered nasopharyngeal cancer and got cured by taking the decoction of *O. indicum* bark. He was interviewed by the author to get first hand information about him (Fig. 2). The man related to the author the genesis of his problem. It was told that he developed terrible pain in the throat, mouth and face in 1995. His face was swollen and bleeding started from the nose. He went to Regional Medical College, Imphal, Manipur for treatment but could not be cured. He was referred to Dr. B. Borooah Cancer Institute, Guwahati, India and biopsies from the institute revealed that he was suffering from nasopharyngeal cancer (Fig. 2). He underwent chemotherapy at Dr. Borooah Cancer Institute but could not be cured. The family was told by the doctors of the Institute that they could not cure him and advised them to take him home for rest. The doctors of the institute told the family that he may live only for about 6 months i.e. till November 1996. On returning home to Manipur, however, one-day the patient’s son was told by a fellow Tangkhul Naga tribe that his uncle had also suffered from similar disease but got cured after taking the decoction of *O. indicum* bark. On learning this, the family treated him as follows:

i) Treatment

About 1.0 kg of fresh bark was boiled in 5 litres of water for 30-40 minutes and the decoction was filtered in bottles. A cup (tea cup) of this decoction alone or with honey was given three times a day to the patient. The honey was added to the decoction to neutralise the bitter taste.

ii) Result of treatment

The family said that it was a miracle. Following the treatment for 2 weeks the patient was free from the terrible pain and the swelling of the face slowly subsided. However, the left eye lost sight. They said it could be due to the terrible pain and swelling of the face he had suffered for a long time before the treatment and may not be due to the side effect of the decoction. The patient had the feeling of numbness on the left side of his face. The author again visited the patient in September 2000 and found him living a normal life. He has no pain or swelling but as a precaution he still continues to take the decoction 3 times a day. The family is grateful to the Tangkhul Naga friend for the information, otherwise they think that the patient might have died already.

B. Other local uses

On interviewing various other tribes in the state such as Anal, Kuki, Mao, Marum, Tangkhul and Zeliangrong, it has been learned that the plant is being used by these tribal for the treatment of various ailments. The decoction of the bark is taken for curing gastric ulcer and a paste made of the bark is applied to mouth cancer, scabies and other skin diseases.
Fig. 1.—Oroxyllum indicum Vent. — A. Tree in fruit. B. Leaves. C. Fruit.
Fig. 2—A. Showing the patient interviewed. B. Certificate from the Hospital. C. Status of the Institute
The seed is ground with fire-soot and the paste applied to the neck for quick relief of tonsil pain.

Also, a paste made of the bark is applied to the wounds of animals to kill maggots. Decoction of the bark is given to animals for deworming. It was also interesting to learn that the sword-like fruit or a branch of the plant is used by the farmers to kill crabs in wet paddy fields. The black crab species in particular make holes on the contours of wet paddy fields through which water is drained off. This is a serious problem faced by the farmers as it dries the field and seriously affects the yield of rice crop. To combat this problem, the farmers insert a fruit or branch of the tree in the hole of the crabs to kill them. It was told that the crab normally dies inside the hole. They have no explanation for as to how it killed the crab but the author assumed that it might be acting as a poison bait. On the other hand, it was surprising to learn that the young sword-like fruits are edible and local people use it as vegetable.

Discussion
The use of the plant parts by various communities in India, especially the tribal people, for various ailments no doubt indicates that the plant must have medicinal properties in it. Therefore, the plant requires a thorough screening of its bioactive chemical properties and clinical testing for the reported efficacies. Special attention should be given to the reported curing properties of the plant for cancer and other tumours. It cannot be ruled out that the plant may have a major role in formulating the life saving drugs for many patients dying of the dreaded cancer.

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