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A Plant Extract that Prevents Clotting of Mammalian Blood

by

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INTRODUCTION

Roots of *Terminalia glabra* (Kumbuk—in Sinhala) are used in Ayurvedic medicinal treatment in Sri Lanka, and it has been claimed that a water extract of the roots of *T. glabra* possesses 'blood anti-coagulant characteristics'. No experimental evidence has yet been reported in favour of or against such a claim. The experiments herein reported were carried out in an attempt to find out whether a water extract of *T. glabra* has any 'blood anti-coagulant action'.

METHODS

The water extract of the roots of *Terminalia glabra* was prepared as specified by Ayurvedic Physician Dr. Amaratunga of Lauries Road, Colombo 5, Sri Lanka. Fresh roots were chopped into about half inch pieces, and 55 grams of such pieces were boiled in 1920 ml. (= eight cups)of water until the volume was reduced to 240 ml. (= one cup). The reddish brown supernatent was separated out by centrifugation. This solution (extract) was slightly acidic (pH 5 — 6) and was stored in a refrigerator for later use. In most experiments the extract was neutralized with NaOH solution before use.

One series of experiments was carried out on citrated bovine blood, citration being done with 3.1% Sodium Citrate solution (Bell, Davidson & Scarborough, 1968, page 454) at the time of collection of blood. Citrated blood + extract mixtures were made in test tubes, normally, by mixing four ml. of blood with one ml. of the extract of a known 'concentration'. Concentrations used were 100% (original extract), 50%, 25%, 12% and 6.25% (dilutions were made by using 0.9% Sodium Chloride solution). Citrated blood was mixed with 0.9% Sodium Chloride solution in a sixth test tube. Time taken to form a 'firm clot', following addition of excess Calcium ions (0.2 ml. of 2% Calcium Chloride solution) to one ml. of each of the above six mixtures was determined. The method of determination of clotting time was basically similar to the method of Lee & White (1913) (as given by Tocantins & Kazal, 1964, page 30; Biggs & Macfarlane, 1962, page 380). One ml. of a mixture was pipetted out into a small, clean, dry glass tube (1 cm. diameter and 5 cm. height); 0.2 ml. of $CaCl_2$ was added from a burette, and the tube was stoppered

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