

Fatty acid and amino acid composition in haruan as a potential role in wound healing

ABSTRACT

1. Two species of snakehead fish are available in Sabah, i.e. *Channa striatus* and *Channa melanosoma*, and are commonly known as haruan. Haruan is consumed by many Malaysians to induce healing after a clinical operations. However, there is no scientific evidence as yet to substantiate the claim, and so it was decided to analyse the biochemical composition in haruan to determine which compounds may have a possible role or potential in wound healing.

2. Samples (midline fillet) of both species were extracted separately in hexane for the qualitative analysis of fatty acids by a gas chromatography, Hewlett-Packard 5890A, using a 10 meter superox 11 column (Alltech) at temperature between 190 and 245°C. Peak areas were calculated automatically using Hewlett-Packard 3393A computing integrator. Subsequently, the amino acid composition was analysed using a precolumn derivatization reverse phase HPLC waters PICO-TAG system.

3. Haruan is found to contain unusually high arachidonic acid (AA) but almost no eicosapentaenoic acid (EPA). AA which is a precursor of prostaglandin may initiate blood clotting and be responsible for growth. Haruan also contains all the essential amino acids for wound healing, particularly glycine which is the most important component of human skin collagen. Therefore, haruan contained all the basic biochemical requirements for wound healing.

Keyword: Freshwater fish haruan; *Channa striatus* and *C. melanosoma*; Biochemical analysis; Fatty acid; Amino acid; Wound healing