Treating fibromyoma with herbal medicines in South Cameroon

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The study presents the conclusions of a survey, carried out to determine how, by means of plant recipes, the traditional healers of the South Cameroon treat uterine fibromyoma. Fibromyoma causes primary or secondary level infertility, but not sterility. The population concerned was those of the Ambam Division, South Cameroon. The study listed and studied 46 plant species belonging to 32 families, all used as traditional herbal medicines in the treatment of fibromyoma. And before that, the local traditional healers and the women treated or under treatment were submitted to questionnaires to be filled. During laboratory work, many of the plant species identified in the field, and their therapeutic uses, were compared with the published works on ethnomedicine in Cameroon and may proved to be new. It was also acknowledged that many others, whose effectiveness in the treatment of fibromyoma was being well recognised, were also used for the same purpose in others regions of Cameroon. In the sample retained within the framework of the study, 16.5% of the women were effectively healed.

Keywords: Ethnomedicine, Medical plants, Fibromyoma, Cameroon

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The fibromyoma (or myomatosis) is called Nsong nyo by the people of Ambam, Yaounde, Akonolinga and Monatële, or Mulombi ma bito by the Duala tribe. These local appellations mean Lower stomach worm, as it is locally believed that the tumour moves within the uterus and gives the impression of moving worm. The clinical symptoms consist of painful dark-bloody menses, nauseating clots, increase in the volume of the belly, stomachache and longer menstrual bleeding periods. The illness leads very often to infertility, which is sometimes a serious cause of divorce or polygamy. These frequent symptoms are the same that are clinically revealed, etc\(^1\). In Ambam, the women suffering from fibromyoma are reluctant to go to the hospital. Fortunately, Ambam traditional healers have found in their surrounding forest environment plant remedies to alleviate their pain and even treat many of them. Ethnobotanical studies have reported that there are many useful medical plant species in Africa and in Cameroon\(^2\). In Cameroon, however, research on plants to treat fibromyoma is still to be carried out. The paper seek to bridge the gap by providing information on plant species used in the treatment of fibromyoma, based on the survey carried out in the Ambam Subdivision (South Cameroon), and evaluating the degree of their phytotherapeutic exploitation and potential efficiency.

Methodology
The study in the Ambam Subdivision was conducted during 1999-2001. The population of the area is 31,369, representing 5.78% of the population of whole South Province and 0.2% of the total population of Cameroon\(^3\). The language of the region is Bulu, the project area having two sub-languages, Tumu & Mvae. The primary means of living are hunting and subsistence agriculture. The climate is equatorial with an average rainfall, temperature and humidity of 1804.5 mm, 24.1°C and 80%, respectively. The vegetation is of rainforest type, with patches of secondary forest. Three multiple-choice questionnaires were administered to the traditional healers and inhabitants of Ambam, prior to their consent for the results to be published. They adhered to the idea, knowing that this could help young girls be aware that fibromyoma was treated in their region, thus putting an end to the local belief that the disease is of baleful origin. The necessary co-operation between the research team and the informants was every time facilitated by the fact that the second
author is a native of Ambam. The well-read traditional healers required copies of articles on ethnomedicine in Cameroon before accepting to collaborate. They then introduced us to former and new women. Persons involved in the survey were briefed on the information to focus on in the questionnaire as well as on the objectives of the research project. For the women, the questions to be administered focused on the symptoms of the disease under study, the fertility of the women, the treatment used, and the recovery, all being carried out in a retrospective study. For healers, on their part, had to answer questions concerning the treatment that was being given to the women and the corresponding recipes, in a prospective study. After they gave various explanations and instructions, questionnaires were distributed to the traditional healers and women. The results of the investigation were then analysed using SPSS and Excel. The ethnobotanical information that was gathered in the field was based on the questionnaires that had been filled in by the traditional healers and fibromyoma women. The plants on which information from at least three healers was consistent were retained, collected, dried and identified. The data collected were compared with those of some previous Cameroonian and African literature. All the specimens collected were deposited in the Department of Biological Science, Higher Teachers’ Training College, University of Yaoundé I.

**Results and discussion**

The official number of women suffering from fibromyoma was evaluated in two hospitals (Ambam Divisional Hospital and Ambam Catholic Mission Health Centre). The registered women between 1998 and 2000 were 51,157, with 65.4% of women. The rate of women with fibromyoma in comparison to the registered sick women was 9.8%, which shows the real prevalence of fibromyoma is the division under study at that period. Women suffering from myomatosis also preferred to be treated by traditional medicine. With the help of 15 traditional healers and 20 elderly women, 200 former and new women of fibromyoma were identified. In 2000, 82.5% of these women were still suffering from fibromyoma; 16.5% were being treated with medicinal plant preparation. The ratio between the number of preparations to the number of species available provides the exploitation index (EI) for the available medicinal flora. There are approximately 8,000 plants species in Cameroon the percentage of plants used (% Pm) is 46/8000 x 100 (= 0.57) and the EI for fibroma in Ambam region is % Pm x AMP = 0.57 x 0.71 = 0.4 (the percentage of 46 plant species on 8000 multiplied by 0.71, which is the percentage of preparation per species, AMP). The plants used are listed by their botanical name, family, local name, and recipes with the method of preparation and administration. Asteraceae is the most represented with 13% of the plants recorded. Some recipes (Nos17, 28, 29, 30, 31, 32 and 33) were not indicated by healed women, but were certainly used in the study area.

During the field studies in the Ambam region, 46 plant species with anti-fibromyoma properties were collected and documented. Various plants being used for the treatment of fibromyoma in the South Cameroon are listed (Table 1). Two plant species, *Galinsoga ciliata* and *Haumania danckelmaniana*, were found to be new in the ethnobotanical literature regarding Cameroonian medicinal plants. Other plants, viz. *Baillonella toxisperma*, *Erythrophleum guineense*, *Tetrapleura tetraptera*, *Cissus petiolata*, *Cassia occidentalis*, *Solanum lycopersicum*, *pterocarpus soyauxii*, *Aspilia africana*, *Enantia chloranta*, *Pteleopsis hylo dendron* new therapeutic uses are being reported. The use of plant species similar to those of other Cameroonian tribes, such as *Croton oligadrum*, *Disso tis rotundifolia*, *Erythrophleum guineense*, *Ocimum gratissimum*, *Piptadeniastrum africanum* and *Tetrapleura tetraptera*, *Baillonella toxisperma* and *Clerodendron volubile* is indicative of the authenticity of their potential usefulness in the treatment of fibromyoma.

The experimental literature provides support for the use of plant species as antifibromyoma, for example Corpaïne of *Carica papaya* has a spasmyloytic action on the smooth muscles of the uterus and the aqueous extracts of leaves of *Cassia occidentalis* reduce tumors’ volume. The exploration index of the Ambam flora, as concerned by the treatment of fibromyoma is evaluated 0.4. It is lower than the indices of the European flora average that ranges from 2.0 to 2.5. Campidano valley (EI = 3.66) and Urzulei district (EI = 3.32) are of all the flora of the regions concerned. There is a lack of information on fibromyoma. Only female disorders that include female complaints are reported, so fibromyoma by extrapolation from available data, the EI on female disorders being 0.09 for Campidano Valley and 0.41 for Urzulei. As compared to these values, the
Table 1—Plants used in anti-fibromyoma recipes: Classification of recipes (a) values in parentheses are percentages of the use of the recipes by 33 individuals; (b) The values are percentage of quotation of the recipe by 200 informants

<table>
<thead>
<tr>
<th>Recipes number (a)</th>
<th>Quotation of informants</th>
<th>Plant name/family/local name/parts used</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total recipes=33</td>
<td>Total quotations =147</td>
<td>Total plants species=46</td>
<td>Total of medicinal preparations=33</td>
</tr>
<tr>
<td>Total patients=33</td>
<td>Total informants= 200</td>
<td>Total quotations of plants in recipes = 65</td>
<td>Average of preparation per plant (AMP)=33 =0.71</td>
</tr>
<tr>
<td>Total quotations</td>
<td>Total quotations/</td>
<td>Total plant/recipes=1.39</td>
<td></td>
</tr>
<tr>
<td>of patients = 22</td>
<td>informant=73.5</td>
<td>Total quotations/recipes=1.96</td>
<td></td>
</tr>
</tbody>
</table>

1(3) 2.7  *Aloes bateri* Bak./Liliaceae./Ngué/leaf

Leaves without spines; local rhum called *Ha* or *Odontol*: ingredients mixed in an alcoholature for 3 weeks are drunk

2(6) 3.4  *Antrocaron* *klaineanum* Pierre/Anacardiaceae/Angongui/stem bark

Stem bark decoction is drunk. Caution: patient must eat well before drinking the medicine; taking alcoholic drink during treatment is contraindicated.

3(12.1) 3.4  *Aspilia* *africana* (Pers.) C. D. Adams/Asteraceae/Guereus/leaf

A handful of leaves are eaten twice a day.

4(6) 2.7  *Baillonella* *toxisperma* Pierre/Sapotaceae/Adjap/stem bark

Stem bark decoction is drunk.

5(9) 3.4  *Carica* *papaya* L./Caricaceae/Fofo'o/leaf

Leaf infusion in water, leaves is spread on a seat on which the patient sits down.

6(9) 2.7  *Cissus petioluta* Hook./Vitaceae/Dick ny'o/leafy stem

Leaf decoction is drunk. Leafy stem pounded and macerated in water is taken.

7(9) 2.7  *Dichapetalum* *gabonense* Engl./Dichapetalaceae/Mva dzii/root

Root decoction is used as an enema.

8(18.1) 4  *Dissotis* *rotundifolia* (Sm.) Triana/Melastomataceae./Oyem Ze/leafy stem

To leafy stem paste a teaspoonful of rock salt is added and rolled into a ball, then the ball is introduced into vagina when going to bed, once a day; this recipe leads to discharge of dirty liquid from the vagina. Caution: recipe 15 is used with recipe 33.

9(0) 2.7  *Enantia* *chlorantha* Oliv/Mjol/Annonaceae//stem bark

Stem bark decoction is drunk.

10(6) 2.7  *Erythrophleum* guineense G. Don/Caesalpiniaceae/Elon/stem bark

Leafy stem is crushed and rolled into balls; one ball is introduced into vagina before going to bed once a day. This recipe is used against a calcified fibromyoma.

113 2  *Euphorbia* *hirta* L./Euphorbiaceae/Okal bifez/leafy stem

Stem bark infusion; the solution is rubbed on belly. Caution: contact with the eyes or nose should be avoided.

12(0) 4.7  *Momordica* *charantia* L./Cucurbaceae/Rtal zon/leafy stem

Leafy plants, local rhum called *Ha* or *odontol*. Ingredients are mixed in an alcoholature, then alcoholate is taken. Leafy stems are infused in water; infusion is used as an enema. Vagina is cleaned by the infusion before inserting the ball into the vagina. Caution: recipe 15 is used with recipe 33.

13(6) 2.7  *Mammea* *africana* Sabine/Clusiaceae/Aborozk/stem bark

Stem bark decoction is drunk.

14(3) 3.4  *Mentha* *piperata* L./Lamiaceae/Menthe/leafy plant

Leafy plants, local rhum called *Ha* or *odontol*. Ingredients are mixed in an alcoholature, then alcoholate is taken. Leafy stems are infused in water; infusion is used as an enema. Vagina is cleaned by the infusion before inserting the ball into the vagina. Caution: recipe 15 is used with recipe 33.

15(3) 9.7  *Momordica* *charantia* L./Cucurbaceae/Rtal zon/leafy stem

Stem bark decoction is drunk.

Contd.
<table>
<thead>
<tr>
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</thead>
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<tr>
<td>16(0)</td>
<td>4</td>
<td><em>Persea americana</em> Mill./Lauraceae/Fia/stem bark</td>
<td>Stem bark decoction is used as an enema before going to bed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Piper umbellatum</em> L./Piperaceae/Abomedzang nkol /leaves</td>
<td>Handful of leaves is steamed under hot ashes and squeezed; juice is drunk. Caution: this recipe is used at beginning of treatment.</td>
</tr>
<tr>
<td>18(12.1)</td>
<td>4</td>
<td><em>Tetrapleura tetraptera</em> Taub./Mimosaceae/akapa/stem bark</td>
<td>Stem bark decoction is taken; an enema is also given. Caution: the treatment is stopped after a period of 1 week.</td>
</tr>
<tr>
<td>19(6)</td>
<td>3.4</td>
<td><em>Acanthus monotanus</em> (Nees) T. Anderson/Acanthaceae/ Ndolé elok/leafy stem</td>
<td>Ingredients are pounded and boiled in water; decoction is drunk. Caution: any preparation should not be used for more than 3 days.</td>
</tr>
<tr>
<td>22(6)</td>
<td>2.7</td>
<td><em>Aframomum melegueta</em> K. Schum (Roscoe)/Adjom/fruit</td>
<td>All ingredients are pounded and macerated; maceration is drunk.</td>
</tr>
<tr>
<td>23(3)</td>
<td>2.7</td>
<td><em>Aframomum melegueta:</em> 9 ripe fruits <em>Pteleopsis hyodendron</em></td>
<td>Leaves are crushed and macerated; maceration is drunk.</td>
</tr>
<tr>
<td>20(12.1)</td>
<td>2.7</td>
<td><em>Ageratum conyzoides</em> L./Asteraceae/Akpwato/leaves <em>Baillonella toxisperma:</em> 250 gm leaves</td>
<td>Ingredients are pounded, mixed with palm oil, and rolled into 2 balls; 1 ball is introduced into the vagina when going to the bed, once a day.</td>
</tr>
<tr>
<td>21(6)</td>
<td>2</td>
<td><em>Ageratum conyzoides:</em> 4 leafy stem <em>Dissotis rotundifolia:</em> 4 leafy stems</td>
<td>Leaves are boiled in water; infusion is used as an enema.</td>
</tr>
<tr>
<td>24(15.1)</td>
<td>2</td>
<td><em>Cassia occidentalis</em> L./Caesalpiniaceae/Ebae/leaves <em>Solanum lycopersicum</em> L./Solanaceae/Okomngoro/leaves</td>
<td>Leaves are crushed and mixed with palm kernel oil; preparation is used to rub the belly and the back, twice a day.</td>
</tr>
<tr>
<td>25(36)</td>
<td>2</td>
<td><em>Ageratum conyzoides</em> L.: Asteraceae/Alo mvu/young plants <em>Solenostemon monostachyus</em> P. Beauv./Lamiaceae./Elok akong/leaves</td>
<td>Crushed plant parts are infused in hot water; infusion is drunk.</td>
</tr>
<tr>
<td>26(6)</td>
<td>2</td>
<td><em>Ageratum conyzoides</em> L.: 9 leafy stems <em>Mammea africana:</em> 250 gm stem bark <em>Momordica foetida</em> Schum.&amp; Thonn./Cucurbitaceae/Eyel zom/2 m leafy stem</td>
<td>Elements are pounded, mixed with palm oil and rolled into 5 balls, 1 ball is introduced into the vagina when going to bed, once a day.</td>
</tr>
<tr>
<td>27(12.1)</td>
<td>2</td>
<td><em>Ocimum americanum</em> L./Lamiaceae/Osim/3 leafy stems <em>Ocimum gratissimum</em> L./Lamiaceae/Messep/5 leafy stems <em>Portulaca oleracea</em> L./Portulacaceae/Pourpier/3 leafy stems</td>
<td>Crushed plant parts decoction in water is drunk. The treatment in a form of enema is taken once a day for 2 weeks.</td>
</tr>
<tr>
<td>28(0)</td>
<td>2</td>
<td><em>Ongokea gore</em> (Hua) *Piere/Olacaceae/Angeuek/500 gm stem bark <em>Piptadeniastrum africanum</em> (Hook. F.) Brenan/Mimosaceae/Atui /500 gm stem bark <em>Pteleopsis hyodendron:</em> 500 gm stem bark</td>
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exploitation index of the Ambam flora vis-a-vis fibromyoma is 8 times higher than in Campidano valley and 18 times higher than in Urzelei district. The degree of phytotherapeutic exploitation to cure fibroma is therefore higher in Ambam.

The cultural roots of the local population run remarkably deep, reflecting their strong ethnic consciousness of therapeutic plants. Thirty-three out of 200 women (16.5%) were healed, using a recipe or an association of recipes; for example 8.6% of the women who got well were treated by recipe 11, 7.2% by recipe 20 or 21, respectively, 5.7% by recipe 8, 12, 15, 16 or 23, respectively. *Momordica charantia* or its preparation, with a high consensus amongst informants, has a high degree of validation (about 90.7%). Such medicinal validation is a gradual social process based on familiarity with the plant and the historico-social background of the population. Fibromyoma can prevent or obstruct implantation and development of the egg in the uterus because of the poor quality of uterine tissue that covers a submucous fibromyoma; the deformation of the uterus by one or many fibromyoma; the result of the contractions of the uterus leading to the expulsion of its contents. It is worth noting that fibromyoma leads to primary or secondary infertility, but not to sterility; Some women gave birth to living children within the sick period. Some individuals are resistant to treatments which have cured a good number of women; this can be due to the appearance of

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<td>29(9)</td>
<td>2</td>
<td><em>Cola acuminata</em> (P. Beauv.) Schott &amp; Engl./Sterculiaceae/Abé/500 gm stem bark <em>Spathodea campanulata</em> P. beauv./Bignoniaceae/Eyovon/1 handful of leaves <em>Triumfetta cordifolia A.</em> Rich./Tiliaceae/Okong/1 leaf</td>
<td>The first 3 elements are boiled in water infused with <em>Triumfetta cordifolia</em> leaf; then the patient sits in the infusion, once a day within 1 week.</td>
</tr>
<tr>
<td>30(3)</td>
<td>2</td>
<td><em>Hausmania danckelmaniana</em> (Br. &amp; K. Schum.) M. –Redh./Marantaceae/Ser/2 leaves <em>Momordica foetida</em>: 1 handful of leaves <em>Ocimum americanum</em>: 1 handful of leaves <em>Ocimum gratissimum</em>: 1 handful of leaves</td>
<td>Leaves are mixed with palm oil and rolled into balls; 1 ball is introduced into the vagina when going to the bed, once a day.</td>
</tr>
<tr>
<td>31(3)</td>
<td>2</td>
<td><em>Araliaxis soxausii</em> Engl./Rutaceae/Nka/50 gm stem bark <em>Croton oliandrum</em> Pierre./Euphorbiaceae/Ebin/50 gm stem bark <em>Cyclociccus gabumensis</em> Harm/Mimosaceae/Adum/50 gm stem bark <em>Hallea stipulosa</em> (D. C.) O. Kuntze/Rubiaceae/Elolom/50 gm stem bark <em>Hausmania danckelmaniana</em>: 1 m leafy stem</td>
<td>All plant parts are pounded and macerated in water; maceration is taken. Caution: the preparation should be changed every week in order to avoid nausea and loss of appetite, inter alia.</td>
</tr>
<tr>
<td>32(12.1)</td>
<td>2</td>
<td><em>Acmella caulirhiza</em> Delile/Asteraceae/Andong si/2 leafy plants <em>Clerodendron volubile</em> P. Beauv./Verbenaceae/Beyem elok/1 handful of young plants <em>Momordica foetida</em>: 1 handful of leaves <em>Solanum lycopersicum</em>: 1 handful of leaves</td>
<td>All ingredients are pounded and mixed with palm oil and/or alcohol and divided into 2 parts; 1 is used to rub the belly and the back and the other is rolled in a ball introduced into the vagina when going to bed, once a day.</td>
</tr>
<tr>
<td>33(0)</td>
<td>2</td>
<td><em>Ageratum conyzoides</em>: 1 handful of leaves <em>Conyza floribunda</em> Kunth/Asteraceae/Depah nko/1 Handful of leaves <em>Galinsoga ciliata</em> (Raf.). Blake/Asteraceae/ Gnies-gamto/1 handful of leafy stems <em>Guibourtia tessmannii</em>: 1 spoonful of stem bark powder <em>Momordica</em> 2 handfuls of leaves</td>
<td>The elements powdered with rock salt and suitable quantity of water is rolled into balls; one ball is introduced into the vagina once a day before going to bed.</td>
</tr>
</tbody>
</table>
irreversible sequels by big fibromyomas regularly calcified and irregular use of drugs. Treatment based on the different traditional ovules (vaginal inserts) cause vaginal discharges, women have to pad themselves, menorrhagia increases, menstrual discharges become clearer and clearer, without clots of dark blood, and its duration returns to normal (4-5 days) and the lower abdominal pains cease: small fibromyoma of 1–3 cm in diameter subside. Echography shows that fibromyoma’s sub-serous decreased in volume as treatment evolved, and that they lost their rigidity and flattened out. There are physiologically dead. The recipe with *Solenostemon monostachyus* causes fibrous polyps, which is proof of the efficiency of many recipes used to treat fibromyoma in Ambam, South Cameroon.

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**References**