Complications of couching and visual outcome after IOL implantation – A study of 60 patients in Sudan

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Abstract
Aims: to describe visual outcome and complications of traditional cataract surgery (couching) which is still practiced in some regions in West Darfur, Sudan. Material and Methods: This case series studied the use of Scleral-fixated IOL in the management of patients who underwent traditional cataract surgery (couching) in West Darfur, between July, 2006 and June, 2007. Results: The study included 60 patients, of which 36 were males and 24 were females. The mean age of patients was 70 years (range 55-90 years). Fifty seven patients had poor vision in one eye, and only three patients had poor vision in both eyes. Complications of couching included secondary glaucoma and optic nerve atrophy (38%), endophthalmitis (22%), Majority of patients (60%) ended up with no perception of light (NPL) vision. In 9 patients sclera fixated IOL and in 4 patients ACIOL implantation procedures were done. Best corrected vision postoperatively ranged between 6/9 and 6/18 in both groups. Conclusion: Couching results in poor visual outcome and blinding complications in most of the patients. Hence, traditional healers performing couching should be banned by the government, not only by setting legislations against them, but also by organizing wide campaigns of heath education and mobile cataract surgery facilities (eye camps) that target the areas of action.

Keywords: Couching; traditional cataract surgery; scleral fixated IOL; Sudan; Africa.

INTRODUCTION
Sudan is the largest country in Africa. It has borders with 9 neighboring countries. Darfur state is located in Western Sudan and has direct borders with 3 neighboring countries (Libya, Chad and Central Africa). This state is under-developed compared to other states of Sudan, and suffers from civil war, famine and drought. Health services are scarce in this state; hence there is large room for traditional healers. One of the most popular surgical procedures performed by traditional healers in Darfur is ‘Couching’ which is a traditional cataract surgery. These traditional healers not only serve patients from Darfur area, but they also treat a considerable number of patients from Chad and Central Africa as well (Figure 1). Couching is the oldest type of cataract surgery. It was known and practiced by ancient civilizations in India, Greece and Egypt. The Indian physician Sushruta in the 6th century BC was the first to document and
practice this kind of surgery.\textsuperscript{1} With the advent of Intra-Capsular Cataract Extraction (ICCE) in 1748, this procedure became obsolete (Figure 2). Despite the tremendous evolution in Ophthalmic practice in urban areas in Sudan (where the state-of-art equipment are available in some places), couching is still prevalent in Darfur state even now, and many traditional healers still perform this procedure on a regular basis. This study describes postoperative complications in 60 patients following couching, and their visual outcome after scleral-fixated intraocular lens (SF-IOL) implantation.

**MATERIAL AND METHODS**
This case series included all patients with history of couching, who presented to El-Genena Eye Hospital, West Darfur over a period of one year from July 2006 to June 2007. History was first taken from all patients, noting down the time of couching and any complications postoperatively. Refraction and measurement of intraocular pressure were done. Then slit-lamp examination was performed. Patients whose vision improved with optical correction underwent secondary IOL implantation. When the lens was posteriorly dislocated, SF-IOL implantation was done. In cases, where the lens was anteriorly dislocated, Anterior Chamber intra-ocular lens (ACIOL) was implanted instead. Postoperative visual acuity was assessed after the IOL implantation at one day, one week, one month and three months postoperatively.

**RESULTS**
Sixty patients presented to El-Genena Eye Hospital, West Darfur, complaining of blurring of vision as a result of traditional cataract surgery (Couching) over a period of one year (July 2006 to June 2007). Thirty six patients (60\%) were males. The mean age of patients was 70 years (range 55-90 years).

Fifty seven patients (95\%) had couching done in one eye, and three patients had couching done in both eyes (Figure 3). Four patients (7\%) had anteriorly seen dislocated crystalline lens (Figure 4a), 9 patients (15\%) had posteriorly seen dislocated crystalline lens (Figure 4b). The commonest complication was secondary glaucoma with
optic nerve atrophy (38%). Thirteen patients (22%) presented with endophthalmitis. Out of the 60 patients enrolled in this study, only 13 patients were operable (21.7%). Nine patients underwent SF-IOL implantation and the rest 4 underwent ACIOL implantation. Best corrected vision postoperatively ranged between 6/9 and 6/18 in both groups. Forty seven patients had no improvement with optical correction. Of these, 11 patients had PL vision and 36 (60%) had NPL vision.

**Figure 3** A patient with bilateral couching

**Figure 4** Couching patients with (a) posteriorly-dislocated lens, (b) anteriorly-dislocated lens.

**DISCUSSION**
The procedure of couching includes mechanical dislocation of the cataractous lens away from the visual axis using a sharp instrument inserted into the eye posterior to the limbus (Figure 5). Although the procedure implies, a similar principle of ICCE (removing the lens from the papillary area, to some extent), the visual outcome is poorer in couching patients than ICCE patient.²

**Figure 5** Instruments used in couching.

Despite the poor outcome and blinding complications of couching, it is still prevalent in many areas in Africa²–⁶ and China⁷–⁸. The reason is that the available surgical services for cataract are not enough to cover the increasing need. In Nigeria, couching coverage of cataract (32.9%) is more than surgical coverage (28.9%), despite the fact that 90.6% of couched eyes had poor vision postoperatively compared to only 6.9% of pseudophakic eyes.³ Our study showed a much higher proportion of couching patients (60%) with no perception of light (NPL) as compared to 33% reported from Nigeria.⁵,⁶ Couching can cause glaucoma in many ways. The main causes are uveitis, papillary block (either by lens or vitreous), phacolytic (if the lens capsule is intact) and phacoanaphylactic (if the lens capsule is ruptured).⁹

There are several reasons why people are still doing couching in some African regions. Most of the patients undergoing couching have wrong beliefs about the nature of cataract and its management. Lack of health education and proper surgical services, in addition to financial difficulties, are the main factors that support the existence of couching in Africa.⁴ Due to its poor outcome and high risk of blinding complications, couching is not an acceptable way of treating cataract. Traditional healers performing couching

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should be banned by the government not only by setting legislations against them, but also by organizing wide campaigns of health education and mobile cataract surgery facilities (eye camps) that target their areas of action.

**Table 1** Showing the details of 13 patients who underwent IOL implantation

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Age</th>
<th>Gender</th>
<th>Eye</th>
<th>UCVA</th>
<th>BCVA</th>
<th>Type of IOL</th>
<th>BCVA after IOL implantation</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>55</td>
<td>F</td>
<td>R</td>
<td>6/24</td>
<td>6/9</td>
<td>SF-IOL</td>
<td>6/9</td>
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<td>2</td>
<td>60</td>
<td>M</td>
<td>L</td>
<td>6/24</td>
<td>6/18</td>
<td>SF-IOL</td>
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<td>3</td>
<td>60</td>
<td>F</td>
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<td>ACIOL</td>
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<td>5</td>
<td>62</td>
<td>M</td>
<td>L</td>
<td>6/24</td>
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<td>SF-IOL</td>
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<td>6</td>
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<td>ACIOL</td>
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**References**