

## Pattern of squint presentations in children in a tertiary institution in Western Nigeria

<sup>1</sup>Dr (Mrs) O.T Bodunde, <sup>2</sup>Dr (Mrs) O.O Onabolu, <sup>3</sup>Dr (Mrs) V.O Fakolujo  
*Department Of Ophthalmology Olabisi Onabanjo University Teaching Hospital*

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### **Abstract:**

**Background:** Strabismus is a common condition in children, but there is paucity of studies done exclusively on it in Nigeria

**Objective:** To describe the pattern of presentation of strabismus among children presenting at the eye clinic, Olabisi Onabanjo University Teaching Hospital (OOUTH) Sagamu, Nigeria

**Study design:-** Retrospective .

**Results:** Strabismus constituted 0.01% of paediatric ophthalmic presentations to OOUTH over a 5year period of between January 2008 and December 2012. Age range is from 0.75-16years with a mean of 4.9years. The male female ratio was 1:2. Esotropia was the most common type of squint while the predominant refractive error was astigmatism. Only 5(31.3%) of those whose onset was before 6months presented on or before 1 year. There was very low uptake of treatment in these children.

**Conclusion:** The prevalence of strabismus was low, intensive health education of parents and teachers is necessary to encourage early presentation and good uptake of treatment as this has a direct effect on visual and cosmetic outcome.

**Key words:** Prevalence, Strabismus, Children, refractive error

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### **I. Introduction**

Squint or “crossed eye” is a relatively common condition worldwide especially among newborns. Horwood et al reported a prevalence of about 73% in one month old babies, reducing to 50% in two month old babies and virtually disappearing in normal four month olds<sup>1</sup>. The prevalence of squint in 5year olds is said to be about 5%<sup>2</sup>. A study done among primary school children in Ilorin, Nigeria recorded a prevalence of 0.14%<sup>3</sup>. Strabismus may have an adverse effect on family relationships<sup>4</sup>. In addition, delayed development (e.g., reaching milestones such as first walking and using single words) and difficulty with tasks involving visual perception have been found in young children with strabismus<sup>5,6</sup>. Young children with strabismus often develop amblyopia and impaired stereopsis. Early identification and treatment of strabismic children may prevent amblyopia<sup>7</sup>. The strabismus child with amblyopia has a significantly higher risk of becoming blind by losing vision in the non-amblyopic eye, due to trauma or disease<sup>8,9</sup>. In the developed countries, many parents notice squint early in their babies and present early to the ophthalmologists unlike in the developing countries. The uptake of treatment in the developed countries is also much higher than in the developing countries. This study was carried out to review the pattern of presentation of squint with uptake of treatment among paediatric patients presenting at Olabisi Onabanjo University Teaching hospital (OOUTH).

### **II. Materials And Method**

This is a retrospective study, and was carried out by reviewing the records of all patients presenting at OOUTH from January 2008 to December 2012, a 5year period. All the case notes of paediatric patients ages 0-16years diagnosed as having squint were retrieved and analyzed. The demographic data, history of prematurity, history of asphyxia, family history of squint, age of onset, type of squint, and cycloplegic refraction with atropine, were retrieved from the case notes. Data was imputed into personal computer and analysed using SPSS version 16.

### **III. Result**

A total of 20,463 patients were seen in the eye clinic during the study period. Children constituted 3197(15.6%) of the total number of patients seen. There were 1687(52.8%) males and 1510(47.2%) females. Thirty eight (0.01%) patients presented with squint but only twenty-two (22) case notes were available for analyses constituting fifty seven point nine percent (57.9%) of the patients presenting with squint. There were 7 males and 15 females (Table 1) with a male female ratio of 1:2.1. Nineteen (86.4%) were esotropic, 3 (13.6%) were exotropic (Table 2). The age range at presentation is from 0.75 to 16 years with a mean of 4.9years  $\pm$  4.13 years. Sixteen (72.7%) of the squint were noticed before six (6) months of life however none presented at that

age. Only 5(31.3%) of those whose onset was before 6months presented on or before 1 year. 2 (12.5%) actually presented after 10years of age. Only one patient had history of low birth weight being a second twin. Six (27.3%) had positive history of birth asphyxia while only 2(9.1%) had positive family history of squint. Four (18.2%) patients had associated nystagmus. Only 11(50%) patient came for cycloplegic refraction. Of these 4(36.4%) had hypermetropia of more than +2.00DS, 3(27.3%) had myopia of any degree while 10 (90.9%) had astigmatism of greater than 0.50DS. One child with lateral rectus palsy had an intra -abdominal neoplasm for which a metastasis to the orbit was entertained while another child with exotropia had hydrocephalus for which he had a shunt procedure at another tertiary center in a nearby state. Spectacles were prescribed for those with significant refractive error but only 2 patients actually obtained their spectacles .However none of them returned for follow up.

#### **IV. Discussion**

Squint is a common condition among children, it is said to occur in 1 in 50 children<sup>10</sup>. That there was a female preponderance in this study is something of note since it had never been reported to be commoner in females than males. This could be attributed to the impact of squint on the physical appearance of a female child with attendant psychological effect in future or the small sample size. Esotropia was the commonest type of squint like in many other similar reports<sup>1,11,12</sup> being the most common childhood squint. Though genetic predisposition has been associated with squint development, we didn't find much evidence of this in this study as only one of the patients was a twin and the first twin did not have squint. Only two patients had family history of squint. Siblings of a child with a convergent squint have a doubled risk of developing a similar condition<sup>1</sup>.

Though 70% of the squints were noticed before six months of age only 5(31.3%) presented before age 1year. This delay in management will have a significant impact on the outcome especially with two of them presenting after age 10years. These children may have problem with stereopsis and would have developed significant amblyopia. Studies have suggested that both the duration of ocular misalignment and the age at which the eyes are straightened are of prognostic importance: they correlate not only with improved stereoacuity outcome but also with improved stability of the long-term eye position and a lesser need for corrective surgery at an older age<sup>13,14</sup>. Stereoacuity develops between three and five months of age and matures to a near adult level during the first two years of life. Surgery before the age of two years—possibly within the first six to twelve months of life—is now believed to maximize the chance of a good outcome<sup>14</sup>.

The predisposing factors to the development of squint such as prematurity, family history and cerebral palsy were not prominent in this study as only two patients have positive family history of squint and six history of birth asphyxia. This could be because of the small sample size in this study. That fact that one child had hydrocephalus and another with abdominal mass is of note because a high index of suspicion is necessary especially in this environment where good history are not always available in most cases.

Astigmatism (90.9%) was found to be the commonest refractive error, followed by hypermetropia (36.4%) contrary to findings of Azonobi et al<sup>15</sup> though similar to their findings astigmatism was more common in children having hypermetropia.

Correction of refractive error is the most important first treatment for squint, however only 11(45.5) waited for refraction and only two patients obtained corrective spectacle. This is probably related to the myth in this part of the world that squint corrects itself with age, it has been discovered that even health workers advise that squint improves spontaneously on its own. This will also explain the high defaulter rate. There is need for intensive health education of parents, and other medical personnel's on the need to identify and treat squint as early as possible.

#### **V. Conclusion**

We conclude that squint cases usually present late to the hospital and uptake of treatment is very poor. An intensive health education need to be embarked upon via media, schools, health centers to correct the myth of this society that squint will be corrected spontaneously with age and that early treatment is essential for a good visual outcome.

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Table 1: Type Of Squints Children Attending The Eye Clinic At Oouth, Sagamu

<b>SQUINT</b>	<b>Number (%)</b>
ESOTROPIA	19 (86.4)
EXOTROPIA	3 (13.6)
<b>Total</b>	<b>22 (100.0)</b>

Table 2: Type Of Refractive Error Among Children With Squint Attending The Eye Clinic At Oouth, Sagamu

<b>ERROR</b>	<b>Number (%)</b>
Hypermetropia >2.0DS	4 (36.4)
Myopia(any degree)	3 (27.3)
Astigmatism >0.5DS	10(90.9)
Anisometropia>1.0DS	NIL
<b>Total</b>	<b>22 (100.0)</b>