

OUTPATIENT SURGERY AT KOMFO ANOKYE TEACHING HOSPITAL IN KUMASI (GHANA) - OUR EXPERIENCE

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ABSTRACT:

Organisation and implementation of day-care paediatric surgery in Komfo Anokye Teaching Hospital (KATH) has been well established for the past six years. Reasons for this development include: maximum convenience for the parents/relatives; decongestion of the in-patient wards; lessened emotional trauma for the child due to separation from the parents as an in-patient; reduction of the financial loss to the hospital as a result of parents not being able to pay their children's fees and therefore, being declared paupers or absconding after having received several days inpatient treatment; improvement in the anaesthetic services; elimination of hospital infection; and finally, increase in the number of children needing surgical treatment as inpatients in small and congested wards.

The financial benefit to the parents sometimes involved a reduction in the costs to about 70% of inpatient treatment. Financially too, the hospital was better off since all patients paid the necessary fees before surgery; besides more and more children benefited from this mode of service.

Keywords: Outpatient surgery, ambulatory surgery, anaesthesia.

INTRODUCTION:

Ambulatory surgery is known to have started at the beginning of this century, when a Scottish surgeon, Nicoll (1), wrote about a large series of successful operations on outpatient basis. But it was not until the middle of the fifties that interest in one-day surgery increased because of the enormous expenditure

involved in medical care and also, as a result of marked improvement in anaesthetic services. In the sixties, ambulatory surgical clinics started springing up in teaching hospitals of many universities of the developed countries and ever since then, one-day surgery became very popular. This led to the appearance of articles and manuals analysing the organisational (2), surgical (3) and anaesthetic (4) aspects of day care surgery and its safety.

MATERIALS AND METHODS:

The records of 1348 children with various diseases and deformities treated from January 1989 to December 1994 were retrospectively reviewed. A comprehensive analysis of the diseases and deformities was carried out.

The selection of patients for ambulatory surgical treatment was done by the surgeon during outpatient consultation taking the following factors into consideration:

- a) the absence of any other problems or disease entities in the child, that will increase the risk of complications of anaesthesia and surgery, and postoperative complications (e.g. diseases and abnormalities of the respiratory and cardiovascular system, etc.);
- b) a haemoglobin level of 10g/dl or more, although in minor cases like skin tags, a haemoglobin level lower than 10g/dl was acceptable;
- c) the wish of the parents or relatives to have their child or ward operated on outpatient basis (if for one reason or the other the parents express the desire to have their child admitted for inpatient surgery, then this wish should be acceded to).



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Preoperative preparation starts on the day of surgery. The parents or relatives report with the child to the preoperative room (waiting room) for assessment by the anaesthetist at 8.30 in the morning. Parents are usually instructed to withhold feedings for 3-4 hours preoperatively. The anaesthetist assesses the child to decide whether he or she is fit for anaesthesia. Where the child is unfit, for example, the child has developed a fever or respiratory tract infection, then the operation is postponed to another time. Where it is deemed necessary premedication is given; most often, it is rarely given.

Surgery is usually carried out under general anaesthesia, sometimes with intubation of the trachea (especially, when masses on the neck, lumps on the head and back, etc. are to be removed). After the operation, the children are usually nursed in the recovery ward until they fully recover from the effects of anaesthetic drugs. They are then discharged home. Parents or relatives are given instructions as to what to do at home. These include: administering the prescribed drugs at home regularly, reporting back on the third postoperative day for review and change of dressing and then again, on the seventh postoperative day for review and removal of stitches. Parents are also told to report back to hospital immediately any unforeseen complications occur at home and not to wait for the third or seventh postoperative days respectively to come back.

RESULTS:

Of the 1348 children treated on outpatient basis, 795(59.0%) were for hernias (inguinal, umbilical and paraumbilical). The second most common group of surgical diseases treated on outpatient basis was the different types of hydroceles (vaginal, congenital, infantile and encysted hydrocele of the spermatic cord) -243 patients (18.1%); this was followed by the group with undescended testis -115(8.5%). All these children (Table 1) had a repair of one form or the other carried out on them.

The next group of diseases, by our study, that can be treated on outpatient basis includes diseases that can be excised. These diseases comprise about 13.0% of all our outpatient surgical cases (Table 2).

The last group of diseases, treatable on day-stay surgery basis, includes diseases or deformities for which a separation, release or incision can be done. They formed about 1.4% of our day-care surgical practice (Table 3).

In this series, the most frequent complications included: wound infection-53 cases out of 1348, which

represented 3.9%; scrotal swellings-25 cases, representing 1.8%; and haematoma of wounds-19 cases (1.4%). In all, the complication rate was about 7.2%.

There were no deaths in the series (Table 5). For the past 6 years, we have repaired more than 700 hernias. There has not been any recurrence after herniotomy or herniorrhaphy.

In three children with undescended testis, the affected testes could not be placed into the various hemiscrota after extensive retroperitoneal mobilisation of the spermatic cords and vessels. The testes were placed at the apex of their respective hemiscrota because of the short spermatic cords and vessels; a second operation was then planned for one year later. One of these children, up to date has not reported for review and possible re-operation. Of the remaining two, in one case, the testis was successfully placed into the scrotum; in the second case, it was impossible to place the testis into the scrotum despite extensive retroperitoneal dissection. The testis was also hypotrophied. Orchidectomy was carried out for him.

DISCUSSION

A total of 1348 children, aged between 0 and 14 years, were treated surgically on outpatient basis in KATH from January 1989 to December 1994. From this study, it is clear that there is a wide range of diseases that can be treated on day-care basis in children (Tables 1,2,3). These diseases include: the various types of hernias, hydroceles, undescended testes, varicoceles, soft tissue lesions and so on. This list of diseases is comparable to the studies on the same topic made by Cloud D.T. et al (2) and Mackersie A. (5). Because of the fact that a lot of diseases can be treated on outpatient basis, we have been able to take care of more and more children every year. Table 4 testifies to this. As a result, each year, more and more beds are made available for seriously ill patients who actually require inpatient treatment.

For the period we have pursued this course of treating patients, we have found out that ambulatory surgery in children has a lot of advantages over the traditional method of managing such surgical patients. These included: 1. Decongestion of the overcrowded inpatient children's ward to make beds available for children who really need to be treated under inpatient conditions. Traditionally, children with hernias were admitted to the ward a day or two prior to surgery and stayed till stitches were removed on the sixth or seventh postoperative day. They, thus spent about 7 to 10 days on the ward. Now, such patients do not even see the paediatric surgical ward. They come straight to theatre on the appointed day for surgery

and are discharged home from the theatre after recovery. 2. Exclusion of the possibility of hospital infection. 3. Considerable reduction of the psychological trauma to the child in connection with his/her being on admission in hospital without his/her parents. Besides, the postoperative period occurs in more congenial conditions, at home, in well-known surroundings to the child.

4. Reduction in the number of investigations to the minimum. Most of such children are usually admitted for day-care surgery with blood analysis (full blood count including sickling), and sometimes, routine examination of urine and stool. All these four points find expressions in the work of other authors (6,7,8,9). 5. Reduction in the cost of treatment. Less patient work-up is needed. According to our calculations, the cost of treatment on outpatient basis was remarkably reduced to about 50-80% in most cases as compared to inpatient treatment of similar diseases for even a few days. Table 6 shows the comparative costs for outpatient and inpatient herniotomy as at 1994. It is obvious that the financial gain for the parents of the child undergoing day-care surgical treatment is enormous - more than 70%. In other words, the child undergoing outpatient herniotomy pays just about one-third of what the inpatient pays for the same procedure. According to Cloud D.T. and co-workers a child treated on outpatient basis paid about one-half of what another child paid as an inpatient for a herniorrhaphy (2).

Another important factor about one-day surgery is the response received from parents and/or relatives. As was stated somewhere above, we took their wishes into account in considering day-care surgery. As such, during review, after the child had recovered and stitches had been removed, in response to the question whether they would submit their children to such outpatient procedures again, should the need arise, the answer in almost all instances was an emphatic "yes". Reasons given for such enthusiasm ranged from the fact that, they are able to be with their children at home to take care of them to the financial benefits accruing from ambulatory surgery.

CONCLUSION:

Our study showed that, it is possible:

1. to reduce the period a child spends in hospital as an inpatient;
2. to reduce the cost of treatment involved in medical care;
3. to free beds, through outpatient surgery, for more serious surgical patients;

4. to reduce peroperative investigations to the barest minimum and this will not adversely affect or influence the outcome of surgery.

Finally, with improved anaesthetic services and careful selection of patients, the scope of day-care surgery, especially among children, in our hospital has increased dramatically over the past few years. Considering the positive factors enumerated in this study, we think outpatient surgery should be contemplated whenever it can be done safely; for the economic burden is reduced, the anxiety of the patient is alleviated and the danger of hospital-acquired sepsis is, in part, reduced. Day care surgery is a more efficient and effective way of providing a service to chosen patients, and should be widely practised.

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Table 1: Day care surgery - Procedure :- Repair.

| DISEASE ENTITY | AGE OF PATIENTS IN YEARS | | | | TOTAL | PERCENT |
|--------------------------------------|--------------------------|------------|------------|------------|-------------|-------------|
| | < 1 | 1 - 3 | 4 - 6 | 7 - 14 | | |
| Inguinal hernia | 62 | 208 | 293 | 124 | 687 | 51.0 |
| Hydrocele | 0 | 62 | 115 | 41 | 218 | 16.2 |
| Undescended testis | 22 | 51 | 29 | 13 | 115 | 8.5 |
| Umbilical & paraumbilical hernias | 7 | 13 | 57 | 31 | 108 | 8.0 |
| Cyst of the spermatic cord | 5 | 7 | 10 | 3 | 25 | 1.9 |
| SUBTOTAL | 96 | 341 | 504 | 212 | 1153 | 85.6 |

Table 2: Day care surgery - Procedure :- Excision

| DISEASE ENTITY | AGE OF PATIENTS IN YEARS | | | | TOTAL | PERCENT |
|--------------------|--------------------------|-----------|-----------|-----------|------------|-------------|
| | < 1 | 1 - 3 | 4 - 6 | 7 - 14 | | |
| Phimosis | 36 | 8 | 4 | 0 | 48 | 3.5 |
| Polydactyly | 29 | 6 | 0 | 0 | 35 | 2.6 |
| Haemangioma | 17 | 4 | 1 | 0 | 22 | 1.6 |
| Dermoid cyst | 0 | 6 | 6 | 3 | 15 | 1.1 |
| Lymphadenopathy | 0 | 0 | 5 | 6 | 11 | 0.8 |
| Thyroglossal cyst | 0 | 2 | 3 | 3 | 8 | 0.6 |
| Varicocele | 0 | 0 | 0 | 8 | 8 | 0.6 |
| Rectal polyp | 0 | 1 | 5 | 0 | 6 | 0.5 |
| Preauricular tags | 5 | 0 | 0 | 0 | 5 | 0.4 |
| Branchial remnants | 0 | 1 | 3 | 0 | 4 | 0.3 |
| Lipoma | 0 | 0 | 0 | 3 | 3 | 0.2 |
| Ganglion | 0 | 0 | 0 | 2 | 2 | 0.1 |
| Miscellaneous | 0 | 1 | 3 | 5 | 9 | 0.7 |
| SUBTOTAL | 87 | 29 | 30 | 30 | 176 | 13.0 |

Table 3: Day care surgery - Procedure :- Release, Separation, Incision.

| DISEASE ENTITY | AGE OF PATIENTS IN YEARS | | | | TOTAL | PERCENT |
|------------------------------|--------------------------|-------|-------|--------|-------|---------|
| | < 1 | 1 - 3 | 4 - 6 | 7 - 14 | | |
| Postburn contractures | 0 | 3 | 5 | 1 | 9 | 0.7 |
| Syndactyly | 0 | 1 | 5 | 0 | 6 | 0.5 |
| Short frenulum of the tongue | 2 | 0 | 0 | 0 | 2 | 0.1 |
| Trigger finger | 0 | 2 | 0 | 0 | 2 | 0.1 |
| SUBTOTAL | 2 | 6 | 10 | 1 | 19 | 1.4 |
| GRAND TOTAL(Tables 1&2&3) | 185 | 376 | 544 | 243 | 1348 | 100.0 |

Table 4: Outpatient surgery - Changing pattern.

| Year | Number of cases | Percent |
|-------|-----------------|---------|
| 1989 | 148 | 11.0 |
| 1990 | 216 | 16.0 |
| 1991 | 172 | 12.8 |
| 1992 | 231 | 17.1 |
| 1993 | 274 | 20.3 |
| 1994 | 307 | 22.8 |
| Total | 1348 | 100.0 |

Table 5 Outpatient surgery - Complications

| Complication | Number of cases | Percent |
|--------------------|-----------------|---------|
| Wound infection | 53 | 3.9 |
| Scrotal swellings | 25 | 1.8 |
| Haematoma of wound | 19 | 1.4 |
| Total | 97 | 7.1 |

Table 6: Day care surgery - Comparative costs for herniotomy in 1994

| Item | In-patient cost(in cedis) | Out-patient cost(in cedis) |
|--------------------------------------|---------------------------|----------------------------|
| Accommodation | 1200 | 0 |
| Feeding | 2700 | 0 |
| Documentation | 500 | 100 |
| Theatre fee | 12000 | 2500 |
| Anaesthetic fee | 6200 | 2500 |
| A pint of infusion with a giving set | 1200 | 1200 |
| Dressings | 500 | 200 |
| Total | 24300 | 6500 |

FOOTNOTE: The financial gain for the parents of the child undergoing outpatient herniotomy is 73.3%.