

Evaluation of Complication Associated with Post Circumcision Anti-Biotic use in Male Children in a Rural Hospital

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Abstract

Background: It is generally accepted that earlier complications like bleeding, infections and long duration of pain occurs in male circumcision when the surgical removal of the foreskin is carried out in any unhygienic environment like most of the rural environments.

Objectives: To evaluate the complications associated with post circumcision antibiotic use in males in a rural hospital.

Method: One hundred and fifty male children brought from outside/delivered at Comprehensive Health Center, Okoyong were reviewed/indexed complications related to post circumcision antibiotic use from 1st January, 2016 to December, 31st 2017. Age for the male children was considered to be from 8 days to 14 days old. Ninety circumcised male children were given antibiotics after the operation and sixty male children were not given antibiotics after the operation. The data collected was analyzed using Student T-test and Chi square χ^2 to find the significant difference of the study.

Results: Among the hundred and fifty male children recruited, 90 (60%) were given antibiotics after the operation, 3 complications at the percentage rate of (0.034%) was recorded. This includes (2.2%) mild bleeding and 1 (1.1%) pain within 12 hours of operation was recorded and they required no intervention.

By contract, the 60 male children without antibiotics; 12 complications at the percentage rate of (0.25%) was recorded. These includes 2 (3.3%) mild bleeding, 1(1.6%) pain within 12 hours, 5 (8.3%) infection, 1(1.6%) wound breakdown and 3 (5.0%) pain after 72 hours demonstrated by the increased heart rate, respiratory rate and sleeplessness. They required intervention in the hospital; there was significant difference between the intervention group and the control group (0.034% vs 0.25%; $p \leq 0.020$).

Conclusion: This study found an association between the intervention group and the control group.

Consequently, the use of antibiotic after male circumcision in the rural areas can be judged to be more beneficial in male circumcision in the rural hospitals.

Keywords: Evaluation, complication, post circumcision anti-biotic, male children, rural hospital

I. INTRODUCTION

Circumcision in the male refers to the surgical removal of the foreskin of the penis and it is the most commonly performed surgical procedure in the world. The origin of this circumcision was traced to the time of Abraham as a seal of the covenant God made with him (Gen. 17:10-14 NKJ)². In verse 12, God said to Abraham, any male child that is 8 days old should be circumcised in your generation, either born in the house or bought with money of any stranger. The routine surgical removal of the foreskin of the penis has been long practiced by both the trained and untrained personnel. There is no medical or surgical indication for routine circumcision in the new born male child³. However, recent data suggests that male circumcision protects against urinary tract infection (UTI) and cancer of the penis during infancy⁴.

It is generally accepted that earlier complications like bleeding, infections and long duration of pain from the operation occurs in males in which the surgical removal of the foreskin is carried out in an unhygienic environment.

II. AIM

The aim of this study was to compare the effect of post circumcision antibiotic use in male circumcision between the intervention group and the control group.

III. SUBJECTS & METHODS

The cross sectional descriptive prospective study was conducted in Comprehensive Health Centre, Okoyong located in Odukpani Local Government Area of Cross River State an Annex of University of Calabar

Teaching Hospital, Calabar- Nigeria. It is about 45 kilometers away from Calabar, the capital of Cross River State. It offers both primary and secondary care to the people of Odukpani and neighboring villages of Akwa Ibom State and Akamkpa Local Government Area. It is also used for the training of final year medical students and Resident doctors from the University of Calabar and University of Calabar Teaching Hospital respectively.

The two years records of all male children between the ages of 8days-14days either delivered or brought from outside to the hospital between January 1st, 2016 to December 31st, 2017 were followed up to determine the total number of male children that had circumcision within the two years interval. All the recruited male children were divided into two groups; The intervention group & the control group through simple balloting. A total number of one hundred and fifty pieces of paper written on it A or B were pickled with replacement randomly.

The freehand clamp method was used for all of them; local anesthesia for pains and aseptic procedures was applied to all of them. The intervention group received post circumcision antibiotic while the control group received no post circumcision antibiotics. In pain assessment, we used the CRIES Assessment Scale where C=cry, R=required, I=Increased vital signs-heart rate and respiratory rate, E=expression, S=sleeplessness.

The data collected was analyzed using simple Student T-test and Chi- Square (χ^2) for significant testing. A p-value of less than 0.05 was taken to be significant.

IV. RESULTS

During the two years study period, 150 male children from the ages of eight (8) to fourteen (14) days old were circumcised. The complications related to the circumcision status were entered and described in the tables below.

Table 1: Complications associated with post-circumcision antibiotic use in 90 male children

S/N	COMPLICATIONS	NO	%
1	Bleeding (oozing)	2	2.2
2	Pain within 12 hours	1	1.1
3	Infection	0	00
4	Wound breakdown	0	00
5	Pain after 72hours	0	00
6	No complications (normal)	87	96.7
$\% \text{ Complication rate} = \frac{\text{Complications}}{\text{Normal}} \times \frac{100}{1} = 0.034\%$			

Table 1 shows the complication associated with post circumcision antibiotic use in 90 male children. 2(2.2%) shows mild bleeding, (1.1%) showed pain

within 12 hours. None showed circumcision infection, wound breakdown and pain after 72 hours.

Table II: Complications associated with no post circumcision antibiotics use in 60 male children

S/N	COMPLICATIONS	NO	%
1	Bleeding (oozing)	2	3.3
2	Pain within 12 hours	1	1.6
3	Infection	5	8.3
4	Wound breakdown	1	1.6
5	Pain after 72hours	3	5.0

6	No complications (normal)	48	82.2
% Complication rate = $\frac{\text{Complications}}{\text{Normal}} \times 100 = 0.25\%$			
	Normal	1	

Table II shows the complications associated with no post circumcision antibiotic use in 60 male children 2(3.3%) shows mild bleeding (oozing), 1(1.6%) pain within 12 hours, 5(8.3%) infection, 1(1.6%) would breakdown, 3(5.0%) pain after 72 hours .48 (82.2%) were normal or showed no complications.

V. DISCUSSION

There were differences in the overall incidence of complication between the intervention group and the control group. However, the frequencies of wound infection were significantly higher in the control group ($P \geq 0.02$). This could probably be due to the post circumcision care mothers gave to their children after the operation. Some of the mothers accepted that they applied palm kernel to the circumcision wounds, others used blue seal Vaseline while others applied herbal preparations.

There have been a number of reports describing the complications associated with male circumcision ranging from infection, urinary tract infection, wound dehiscence, excessive blood loss, meatal ulcers, loss of glands penis and death. But this study revealed that the most common complications associated with male circumcision were bleeding, infection and post operative pain.

This study also shows that, short term complications associated with male post circumcision antibiotics use was rare and mostly minor compare with no post circumcision antibiotic use where we have significantly higher rate of wound infection. This probably could be because, our environment where we lived was very dirty or unhygienic even when aseptic procedures were applied.

Serious complications of routine male circumcision were rare but foreskin removal is regarded as a simple operation and is frequently delegated to the house officers or junior doctors with poor skill and technique. Consequently, to overt all of these complications, one has to comply with the principles of asepsis, acquire good skill and techniques, secure homeostasis and give antibiotics after the operation.

VI. CONCLUSION

This study found an association between the intervention group and the Control group. Consequently, the use of antibiotics after male circumcision in the rural areas or environment can be judged to be more beneficial in male circumcision in the rural hospitals.

VII. RECOMMENDATION

All male circumcisions in the rural areas should be given antibiotics after the operation. Mothers should be educated and trained on how to take care of post circumcision would be avoid infection and long duration of post operative pain. This study should be carried out in other rural areas or health centers.

VIII. LIMITATIONS

This study was only limited to Comprehensive Health Care, Okoyong. The findings were limited to the early and immediate complications and did not include long term complications.

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