

Cancer (Squamous Cell Carcinoma), A Possible Climax of Poor Oral-Hygiene: Case Study of A Victim in Rural Nigeria

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Abstract

The objective of the study was to highlight the grave consequences of poor oral hygiene. The researcher himself, a primary health care campaigner, used the ordeals of an 18 year old victim of Dental plaque as a case study to drive home his point about the importance of preventive healthcare. The patient was an academically sound but unemployed secondary school leaver from a very poor family in the rural community of Obiaruku, Delta State, Nigeria. He suffered from dental plague which progressed to full blown dental decay. Failure to heed advice to obtain proper medical care from a dentist; his resort to self-medication; and his visits to native doctors to seek relief worsened his pathological condition. His case became cancerous and he suffered from Squamous Cell Carcinoma (SCC). His life was now on the line. It took a combination of surgery, chemo and radiotherapy; as well as financial support from organisations and individuals to save his life. The study underscores the importance of good dental care. Recommendations include proper brushing and washing of the teeth after every meal; as well as routine visits to a dentist for dental checkup, at least once in six months.

Keywords: Oral-Hygiene. Dental Plague. Cancer. Radiotherapy

BACKGROUND/INTRODUCTION

Obiaruku is a rural community in Ukwuani Local Government Area of Delta State, Nigeria. The people of the area are predominantly farmers and their staple food items are carbohydrates like yams, cocoyam, plantain and potatoes. In between meals, a large population of the people, especially the children and youth consume banana, groundnuts, tapioca (sliced cassava chips) and a variety of soft drinks. Several parents think they are showing their little children outstanding love by buying them biscuits, sweets and other forms of sugary consumables.

Unfortunately, the incessant intake of these food items do not get followed up with proper cleaning or brushing of the teeth, and the mouth as a whole. This therefore leaves a large deposit of food particles in between the teeth, forming excellent breeding ground for bacterial growth and dental plaque formation. The only major dental hygiene practiced in the community is the use of chewing sticks to clean the teeth in the morning. This is not even a very regular exercise and several of them appear to concentrate attention on cleaning the incisors and canine teeth, almost neglecting the premolar and molars. So, dental/oral hygiene is generally poor among the people.

The consumption of great quantities of carbohydrate, coupled with the poor practice of oral hygiene, has made dental problems very common in the area of study. The only government hospital available records a large number of dental cases ranging from mild pains in the teeth to more serious cases like tender and bleeding gums, painful abscess and shaky teeth, some of which have various sizes of cavities in them. Most of these pathological cases begin with dental plaque formation.

LITERATURE REVIEW

Dental plaque formation begins with the dental condition in the mouth referred to as 'Dental Caries' (Nwana, 2002). Here bacteria of decay feed and breed on food particles left on, and in between the teeth after meals. The bacteria secrete a sticky substance called zooglea with which they attach themselves firmly to the teeth surface to form dental plaque, a kind of microcosm, (Lucas 2003; Moronkola, 2003). The microcosm protects the bacteria and prevents water, mouth-wash and saliva from penetrating the sticky mass of plaque. But sugary/carbohydrate foods penetrate them easily, because they are sources of food for the bacteria, making them multiply rapidly. The feeding process of the bacteria produces acids within a few minutes after an individual takes food and fails to brush and clean/rinse his mouth (Nwachukwu, 2003). The concentration of the acid continues to increase till it becomes sufficiently high to react with the inorganic salts of the teeth, and decalcification of the affected teeth begins (Nwana, 2002). That is, calcium which is one of the mineral salts that give strength to the teeth is gradually, but steadily removed. This action continues till a widening hole is created in the affected tooth, or set of teeth. The cavity accommodates more food particles and more bacteria activity produces more acid that, in turn, continues the decalcification process and wider expansion of the cavity in the tooth.

Cleaning of the teeth now becomes more problematic because of the food particles hidden in the cavities. With further bacteria action and decalcification, the cavity gets down to the pulp, the living part of the tooth, made up of blood vessels and nerves. By this time, the individual concerned begins to experience strong toothache, swollen and tender gums, and possibly painful abscess; ending up in the death and decay of the affected teeth

(Nwokoma, 2004). Again, because of the connection which the blood vessels have with the general blood circulatory system, further bacteria action may lead to other pathological complications, including cancer (ZurHausen, 1991).

STATEMENT OF PROBLEM

This paper is fundamentally a case study focused on documenting the health complications suffered by an 18-year old dental patient as a result of dental plaque; and delayed submission of self to orthodox medical care.

OBJECTIVE OF THE STUDY

The study is intended to draw the attention of the public, in general, and the people of Obiaruku in particular, to the possible dental risks associated with sugary foods and poor oral hygiene.

SIGNIFICANCE OF THE STUDY

It is hoped that this study will be of significance to the people of Obiaruku, and beyond, in helping them realise the causes and grave health consequences of dental plaque. To date, no earlier study on dental plaque has been conducted in this part of the country. The contents of this paper will therefore be of great value as a reference material for other researchers who may be interested in conducting further studies in this area of health. Further still, the causes, consequences of and prophylaxis against dental plaque will be useful to health educators when drawing up the contents of their health education programme; with particular reference to dental care. Finally, the study will highlight to the general public the serious debilitating health consequences of procrastination, and preference of some unreliable native treatment processes to orthodox medicare.

METHOD

The study procedure employed was a combination of visitations, observations and oral interviews/discussions. The researcher and his assistant paid several visits to the patient and his parents, at periodic intervals, to see how the boy was getting on with his ailment. They observed the gradual, but steady deterioration of the dental problem, and held discussions with the boy's parents to suggest the best actions to take to obtain the best medical intervention.

Case Reports

The patient in question was a brilliant 18-year old school-leaver who passed out from secondary school with very good grades. His parents were too poor to sponsor him in the State University that had offered him admission. After two years of a fruitless search for gainful employment, he opted to employ himself as a motorcycle rider, taking commuters to various places to make a living. Less than one year into this profession, a nagging tooth-ache hit him. He quit his job, to nurse his pains. The researcher who was incidentally running a Public-Health-Awareness-Campaign on "Primary Healthcare" in the boy's village at the time, decided to take his condition up, as a case study.

First Visit

On the researcher's first visit, the patient reported severe pains in one of his molar teeth. On close examination of his teeth, when the boy opened his mouth, it was observed that his teeth were generally unclean. There were deposits of decaying food particles in between his teeth, especially the molars, giving them a dark-brown colouration. Dental plaque had already set in. The patient was given a tooth-brush and paste to clean his teeth. He did this with a show of excruciating pain; and complained of inability to chew any food item with that side of his jaws. He was given some pain-relieving drugs to offer him interim relief; and advised his parents to take him to hospital for proper dental care, without delay.

Second Visit

The researcher and his assistant went to find out the outcome of the patient's visit to a dentist; only to discover that the advice to do so was not heeded. Meanwhile, the gum around the affected tooth had become swollen; and the pain was noticeably unbearable. A small cavity was observed on the enamel of the plaqued tooth. Further cleaning of his teeth generally was attempted, but this could not be thoroughly done because of serious discomfort around the region of the troubled tooth. The patient was given a stern warning that he must see a dentist to avoid further deterioration of his health problem.

Third Visit

It was found out that the patient had gone to see a dentist, but this was after a few weeks of more delay. The clinical report by the dentist showed that the cavity in the tooth had become wider and deeper. "Filling" of the cavity in the tooth was recommended by the dentist. The patient appeared unwilling to do this; but the researcher strongly advised the boy and his parents to comply with the recommendation of the dentist. Difficulties suffered by the patient now included little or no feeding; highly depressing headache, close to a migraine; and loss of sleep. He became clearly irritable.

Fourth Visit

It was observed, to the dismay and annoyance of the researcher that the “filling” of the cavity was not done. Rather, the boy had resorted to self-medication, on the advice of his parents. They placed either powdered aluminium sulphate (‘ALUM’), or drops of a medication locally known as ‘Touch and Go’ around the neck of the decaying tooth; as a form of treatment. When those efforts failed, the researcher learnt that the patient was taken to a traditional medicine healer. The native doctor’s diagnostic report was that the boy was suffering from worm infections that had invaded the root of the tooth. Treatment administered was with herbs boiled with palmwine inside a small clay pot. The boy was made to open his mouth wide, over the steam coming out from the pot, with the assurance that the hot alcoholic steam would flush out the worms responsible for his suffering. That, too, did not provide any positive result.

Meanwhile, the condition of the decaying tooth had continued to deteriorate. Close observation showed that the cavity had become much deeper, the gums were thoroughly inflamed. When the researcher touched the tooth with a spatula, it was found to be unstable. The boy’s parents were once again advised in strong terms to get back to a specialist dental surgeon, and comply with whatever prescription he may make this time. It was stressed to the patient and his parents that the dental decay could spread infection to the adjacent teeth, and other parts of the body; and that would be disastrous (Sillagy and Neil, 1994).

Fifth Visit

The tooth was observed to have undergone complete decay, according to the dental surgeon’s report. The cavity had reached the dental pulp, destroying the blood vessels and nerves. Bleeding in the mouth was now profuse, both day and night. A painless growth was fast developing close to the decayed tooth. The boy could neither open his mouth with ease, nor speak very clearly anymore. To compound his experiences, the boy lost his appetite for food. The little amount taken occasionally was liquid food, like pap or custard.

The researcher no longer relied on persuasion of the boy’s parents to offer orthodox medical service to their child, but offered to personally take the boy to the Dental Clinic, University of Benin Teaching Hospital, Benin-City, Nigeria. His medical condition was now so bad that his parents had no other option than to accept the offer. After preliminary examinations and Biopsy tests by a team of dental surgeons, it was declared that the boy’s case had become cancerous. This agreed with the statement by ZurHausen (1991), that certain cancers could be of pathogenic origin. The patient was pronounced a victim of squamous cell carcinoma (SCC) of the lower jaw bone. This too agreed with the writings of Tannok and Hill (2005) concerning cancers attacking specific organs and tissues of the body. Immediate surgery was recommended, but his parents were too poor to fund such a surgical operation.

Follow-up work

The researcher quickly elicited the sympathy and cooperation of five of his friends from public and private establishments, including religious bodies to form a fund raising committee. The boy’s condition was made public and an appeal for fund was launched to raise money from these organisations and individual philanthropists to offset the medical expenses.

The surgery was successful. One half of the lower jaw-bone affected by the cancer was removed and replaced with a curved piece of wire, as prosthesis, in an attempt to maintain the shape of the face. Although the operation was successful, the surgeons strongly recommended further medical treatment by way of radiotherapy. Unfortunately, the University of Benin Teaching Hospital at the time of this study did not have sufficient facilities for such treatment. The patient was referred to the Oncology Department, National Hospital, Abuja, Nigeria, where he received a combination of chemo and radiotherapy for 15 months.

By this time, the boy had become almost a walking skeleton. Except for his badly swollen and frightening face, he was extremely emaciated as a result of his completely lost appetite for food; persistent watery stooling and shortage of blood. In addition, his skin assumed a much darker complexion, and he lost the hairs on his head and other parts of the body. All these were said by his doctors to be the side-effects of his medication.

Far away in his village, the boy’s parents, relations and well-wishers had virtually lost every hope of his ever coming back home, alive. Fortunately, he survived his medical ordeal, but went home, a facially deformed young man; with a bit of speech difficulty.

On his return, a thanks-giving ceremony was organised by his parents, relations and friends, to celebrate his survival from cancer; a pathological condition widely regarded as a “silent killer” (BBC, 2005; Oghenerhaboke, 2008). The researcher and his team of associates cashed in on that opportunity to give the audience a brief but stimulating talk on the very negative aftermaths of poor dental/oral hygiene. Leaflets containing precise information on the causes, consequences and prevention of dental ill-health were freely distributed to the villagers and invited guests present. They were requested to help extend the information in the said leaflets to the wider society. Their expression of gratitude for everything done for the boy, and the community at large, was spectacular.

CONCLUSION

Very poor oral/dental hygiene is a notable origin of dental ‘caries’ and dental plaque. These, in turn, have highly debilitating health consequences ranging from mild discomfort, to excruciating pains, malnutrition, loss of proper dentition and other health complications that may put the life of the victim on the line.

RECOMMENDATIONS

- a) The teeth and the spaces in between them should be thoroughly brushed and rinsed with clean water after every meal.
- b) The mouth should be regularly washed with chlorinated water, or iodized salt- solution, because of their bactericidal effect (Nwachukwu 2004).
- c) Individuals should visit a dentist for routine dental examinations, at least once every six months.
- d) Public enlightenment in Primary Health Care, to stress the importance of oral/dental hygiene, among other things, should be sustained through schools and the mass media (Okafor, 2000).

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