

DENTAL CARIES REVISED

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In 2023-2024 the total number of cases attending Dental Out Patient Department of Bir Hospital, was 18,121.

Out of which new cases were 10,829 divided into the following categories—

- (1) 2493 cases of Gingivitis
- (2) 3489 cases of Caries
- (3) 1909 cases of Impacted wisdom teeth
- (4) 2122 Cases of general Pyorrhoea
- (5) The remaining 816 cases were miscellaneous: osteomyelitis, Malposed tooth, fracture, Abrasion etc.

So percentage of each disease is as follows :—

- (1) 32.2% of Caries (Dental)
- (2) 23.2% of Gingivitis
- (3) 19.8% of general Pyorrhoea
- (4) 17.6% of Impacted teeth (3rd Molar)
- (5) 7.2% miscellaneous cases

From the above data it is shown that of the total number of cases attending [the dental department of Bir Hospital, the maximum number suffer from dental caries.

Dental Caries is a disease of calcified tissue of the teeth. It is defined as the demineralization and disintegration of dental tissue caused by acids produced by bacteria by acting on carbohydrate food.

Etiology of Caries :—

There are many theories about the etiology of dental caries. But the most applicable theory is supposed to be the Acidogenic theory. In this theory, Acids, Bacteria and Carbohydrate all play a role.

When a piece of carbohydrate food remains in or between teeth, the micro-organisms which are always found in the oral cavity will have lodgement, thereby fermentation and

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acid formation. There are different acids but the most harmful one is lactic acid which destroys and causes disintegration of the dental tissues namely Enamel, Dentine and Cementum. Thus caries occurs.

Heredity also plays an important role in dental caries besides bad oral hygiene and crowded and malposed teeth. Lack of vitamins like A and D and Calcium and protein in the developing stage of dental tissue are responsible for dental caries. Civilised diet eg. bread, chocolate and biscuits are also responsible.

Young ones suffer more often than the elderly people. Females are more prone to have dental caries than males.

Advice :-

1. Vitamins A & D, calcium are advisable if needed in early childhood in proper amounts.
 2. More emphasis should be given to education about oral hygiene from the very childhood.
 3. It has become so common with parents to offer sweets like chocolates and also biscuits to their children without proper advice about brushing and cleaning their teeth afterwards. This should be discouraged.
 4. It is good and advisable to go for a natural diet requiring a good deal of mastication and also plenty of fruits and vegetables.
 5. Periodical check-up treatment six monthly is recommended because badly decayed teeth may be a source of infection in other parts of the body.
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Caries Due to Earthquakes.

In a Dental School workshop the clinical student presented to the lecturer, surrounded by a crowd of students, a case of dental caries which required fillings. Finding that the same tooth was carious on both sides above and below - only four carious teeth, all the others were good- the lecturer asked whether the students could explain such an incidence but no explanation was forthcoming. "Well" said the learned teacher "you see, his mother may have had calcium deficiency at about the sixth month of his intrauterine life when these permanent teeth were being laid down" (Now turning to the patient) "Do you know of any reason why your mother may have had calcium deficiency then ?" There was silence all round when the patient seriously said, "Sir, I don't know about the deficiency at that time but there was a severe earthquake all right."

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The Pharmaceutical Production Unit of the Royal Drug Research Laboratory is in a modern air-conditioned building of 8400 Sq. feet which was inaugurated by H. M. Queen Ratna in July 1968. It is equipped with a modern plant in which tablets, capsules, syrups, ointments, liquids, creams and injectable preparations can be processed and packed economically under hygienic conditions. Process control on the output from the unit is exercised by four graduate pharmacists on a full time basis, and quality control of the finished products is carried out by other graduates in the Analytical section of the Laboratory, using British and Indian Pharmacopea as Standards.

Since its inauguration fourteen different products have been produced, which will speak for themselves, such as:

ACITRASOL

Syrup each 4 ml (one teaspoonful) Containing 1.05g of Di-Sodium Hydrogen Citrate B.P., Bottles of 100ml.

It is a palatable alkali, effective for making the urine alkaline in infections of the urinary tract when Sulphonamides and Antibiotics are being used; in acidosis and uraemia; in irritation of urinary tract by acid concentrated urine; in pyrexias.

IODORT

(For External Use only)

Formula:-

Iodine	5%
Methyl Salicylate	5%
Vegetable oil and	
Paraffin base	Q.S.

Indication:-Rheumatism and Muscular Pains, Back pain; for Massage of healed fractures etc.

Packing, Bottles of 25 gram.

PIPRACITE SYRUP

Syrup of Piperazine Citrate B.P.C.

Pleasantly flavoured, each 4ml containing 500mg of hydrous piperazine B.P.C.

Indications

1. Ascariasis (Roundworm infestation)
2. Oxyuriasis (Threadworm and pinworms infestation)

Its administration does not require pre-treatment like dieting, fasting and purgation.

It is well tolerated by many people.

Dose for Ascariasis

A single dose of Pipracite is sufficient for the complete removal of *Ascaris lumbricoides*.

Below 6 years —8 to 12ml of syrup

From 6—12 —16 to 24ml of syrup

12 years and above —32ml of syrup (4ml-1 teaspoonful,)

Packing:— Bottle of 32ml

Bottle of 500 ml.

CUF - NAS.

Cough Syrup:

In each 100 ml

Ext. Tolu I.P. 50ml

Ext. Vasaka I.P. 5ml

Codeine Phosphate B.P. 15 g.

Sodium Benzoate 1.5 g.

Menthol .002%

Sucrose Suffi to 66%

It soothes and stops dry cough in acute, and chronic bronchitis, influenza, sore throat etc.

Dose:

One teaspoonful thrice daily for adults. Half teaspoonful thrice daily for children or as directed by the physician.

Packing:— Bottle 120 ml.

NE-MYCIN CAPSULES

Each capsule contains 250 mgms of Chloramphenicol U.S.P.
Bacterial action:

It is a broad spectrum antibiotic i.e. effective against both gram-negative and gram-positive bacteria, as for instance *Escherichia coli*, *Brucella abortus*, *B. melitensis*, *B. tularensis*, *Haemophilus influenzae*, *H. pertussis*, *Klebsiella aerogenes*, *K. pneumoniae*, *Proteus vulgaris*, *Salmonella* sp. and *Shigella* sp. in first category. It is also effective against rickettsias and viral infections like lymphogranuloma venereum and psittacosis.

It is the drug of choice in cases of typhus and typhoid infections.

Pharmacology:

Chloramphenicol is absorbed rapidly when administered orally. A maximum level of 9 mg. per ml. in blood, reached in 2-4 hrs. by a single dose of 1 G. 250 ml after every 6 hrs. maintains a blood level of 2 mg per ml. It can enter the cerebrospinal fluid and diffuse into pleural fluid and placenta.

Toxicity:

Its prolonged use may produce Agranulocytosis, Aplastic anaemia and Thrombocytopenic purpura. Minor side effects like nausea, vomiting, dryness of mouth and gastrointestinal troubles can be overcome by use of antibiotics with milk.

Contra-indication:

Great care is necessary when treating anaemic patients with chloramphenicol.

Dose:

250 mg. capsules are provided. An adult dose is 500-750 mg every 6 hrs. After the control of the infection, treatment should be continued for 2-5 days. For a daily dose 50-100 mg. per kg. of body wt. should be administered.

Packing:- Capsules of 250 mgm.

12 Capsules in metallic Container

Capsules of 250 mg, 10 Capsules in strip packing.

NE-CYCLIN CAPSULES

Each Capsule contains 250mgms. of Tetracycline Hydrochloride U.S.P.

Bacteriological Action:

It is a broad spectrum antibiotic having a very wide range of effectiveness. It is also effective against spirochaetes, actinomycetes, rickettsias and some large virus. *Entamoeba histolytica* and *Trichomonas vaginalis* are also susceptible to it. At higher concentrations it can inhibit *Proteus*, *Pseudomonas*, *Salmonella* and *Shigella* species.

Pharmacology

When orally given, it is been readily absorbed by G.I. tract. Therapeutic blood concentration is attained more readily than other members of the tetracycline family (chlortetracycline, oxytetracycline and tetracycline) It is rapidly diffused into body fluids, (pleural and peritoneal), saliva, milk, placenta barrier and blood brain barrier so that its concentration can be traced in cerebro-spinal fluid and in foetal circulation. It is found concentrated in liver, kidneys, lungs, spleen and other reticulo-endothelial tissues.

Dose:

Usual dose is 250 mg - 500 mg. every 6 hourly 2.5-7.5 mg. per kg. body weight every 6 hrs. can be administered to the children. Vitamins of B and K group deficiency arising due to alteration in bacterial flora of the gut after prolonged administration is easily prevented by supplementing these Vitamins. Packing:- Capsules of 250 mgm each 6 Capsules in metallic container.

Capsule of 250 mgm 10 Capsules in Strip packing.