

No. A.

Materia Medica.

60

Natura Medica.1. (a) Digitalis.

4/6
 Digitalis is the drug obtained from foxglove leaves. It is usually administered as a pill, but can be given as a powder or linchute. Its main use is to slow down the pulse by acting on the sino-auricular node and Bundle of His in the heart. The auricles and ventricles are able to fill completely between contractions, thus making the pulse stronger. Digitalis also acts as a diuretic in cardiac failure, because of the increased flow of blood to the kidneys.

Digitalis is given in cases of congestive cardiac failure, ~~not~~ auricular fibrillation, and hypertension. The primary dose is nine grains. The second is six grains, and three grains are then given daily, as ^{grains} two are excreted and one is needed to maintain the treatment. *mixed up*

Signs of digitalis poisoning are vomiting, giddiness, anorexia, cyanosis, anuria and ~~poor~~ coupling of the pulse beats. The pulse is also very slow. Treatment is to discontinue drug. Digitalis is given to maintain the pulse between 60-80 and is not given if pulse under 60.

(b) Morphia:

4/6
 is a derivative from opium. It is a narcotic as well as a sedative and is usually given for severe pain or muscle spasms. It may also be given pre-operatively. *8-1/2 gram*

The usual dosage is from 1/8-1/4 grain, ^{with less than four} hours between injections. As it is a dangerous drug it must not be given except under medical supervision.

Morphia should not be given to children, as they tolerate it badly.

(c) Anti-tetanus serum and tetanus toxoid.

4/7
 Anti tetanus serum is obtained by injecting clostridia, or tetanus, ~~germs~~ into horses. They produce antibodies, which are then obtained from their serum. When the serum containing the antibodies is injected into the patient, ~~as~~ a passive

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immunity is required after 20 minutes which lasts three weeks.

Tetanus toxoid is obtained by processing dead toxins through formalin. ~~to~~ Active immunity is not acquired by the patient ~~for~~ ^{until} two weeks after the injection. The effects of this toxoid last much longer, although a "booster" dose must be given after a year.

(iv.) Adrenalin.

4/6 is obtained (~~from~~ ~~the~~) from the supra-renal glands, but can be produced synthetically. It is a cardiac stimulant and a vaso-constrictor. It is usually used in cases of status asthmaticus, severe shock, tetanus, morphia poisoning, etc. It can be given parentally, usually as 1:1000, or 1:1000 in oil, which has a longer effect; or locally as a haemostatic in epistaxis.

2.

Antibiotics.

Antibiotics are the chemicals used to combat infections which are obtained from moulds, etc., and not made synthetically.

The foremost of these are penicillin, streptomycin, and the broad-spectrum antibiotics, such as, tetracycline, chloramphenicol and furazolidone, although the latter group are not produced synthetically.

Penicillin is obtained from the penicillium notatum mould. It is an acid and extremely unstable, therefore it may be prepared and administered with aseptic precautions. It is most effective against Gram positive organisms such as staphylococcus, streptococcus, meningococcus, pneumococcus and the gonococcus. It will not act in the presence of pus, and is ineffective with sloughing, as the drug cannot reach the ~~the~~ only reach as far as the edges. If an anti-enzyme "penicillinase" is manufactured in the body the drug is useless.

Streptomycin is mainly effective against Gram negative organisms, such as B. Pyocyaneus, Klebsiella, B. coli and some Gram positive organisms, although Penicillin is (~~better~~) more efficient.

2. for the latter, and is therefore used more often. Streptomycin is specifically used for tuberculous meningitis, where it is given intrathecally. For tuberculosis one gram is given intramuscularly daily; para- amino- salicylic acid is given in conjunction with the as it delays the development of resistance to the drug.

The broad spectrum antibiotics are used if penicillin and streptomycin are ineffective. These only inhibit the growth of the organism, whereas penicillin is bacteriocidal as well.

The specific antibiotic used is determined by the specific drug for the infection, or disease; (left) or a specimen is sent to Pathology for sensitivity and culture tests.

3. (a) Purgatives: are used to relieve constipation, and may be classified as those that act physically, on the small intestine, on the colon, and on both.

The physical purgatives are supplying increased fluid or cellulose. If these are ineffective the chemical purgatives are used.

Usually only laxatives are used if the constipation is not severe. These are paraffin, ~~and~~ or castor oil, which smooth the intestine walls, and allow the faeces to move gently. These oils are not absorbed, and are effective from one to two hours.

Saline purgatives may also be used, - for example, Magnesium Sulphate, which draw fluid from the surrounding areas into the intestine and liquid helps to soften the contents.

The purgatives used which irritate the nerve ending, to cause increased peristalsis are cascara and aloes (as in Stephen Pillo). Cascara is used more often, as it is effective in 8-10 hours. There are other more drastic cathartics, such as jalap and croton oil, but these are never used, as they are dangerous.

(b) Barbiturate series of Drugs.

The Barbiturate drugs are obtained from opium, and there are many varieties of preparations obtained from it. The main drugs are Luminal or phenobarbitone, Veronal or pentobarbitone, Amycine, Nembutal, Seconal, and Chloralhydrate. As these drugs processed in the liver they should not be

3. (b)

given in cases of liver damage.

The barbiturates are prescribed mainly as sedatives or as pre-operative medications. Phenobarbitone is given at night, in $\frac{1}{2}$ - 1 grain doses for an adult, and proportionately lower for children. Children can ~~easily~~ be given phenobarb as it is easily tolerated.

(c)

Drug Idiosyncrasy:

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Some drugs may cause an allergic reaction in some people who may be sensitive to its constituents. For example penicillin may cause rashes and ~~fevers~~ on someone who is sensitive to it. These allergies seem to have no known cause, so the patient is usually given another drug of the same group. Alternatively, the patient may form a drug "habit" and have a craving for a certain drug. This can often be cured by a breaking down of the dosage given.

4. (a) Drugs used in the treatment of asthma

(i) Asthma

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M. Specac & Squills, which ~~drives up~~ bronchial secretions and is an expectorant.

Lephalthine, a muscle relaxant.

Adrenalin 1:1000 in oil, for acute attacks ~~(to improve the)~~ as a cardiac stimulant.

Aminophylline: also a cardiac stimulant to improve circulation.

Sometimes Adreno-cortico-Tropic Hormone (A.C.T.H.) is used empirically ~~with~~ as its specific use is unknown.

(ii) Urinary Tract Infections

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Sulphonamides are most commonly used, as they are most effective against Gram - ve organisms, of which *B. coli* is one, and it is usually *B. coli* that causes the infections. If sulphas are used, at least urine must be voided daily to prevent the drug crystallising.

4 (ii)

in the kidneys.

Novolucil is sometimes used as it is a urinary antiseptic.

If sulphonamides are not effective, penicillin is used if the organism is tested and found susceptible to it.

(b) Treatment of shock.

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The patient is kept flat, preferably in bed, and kept warm. Plenty of fresh air should be given and bright lights excluded. Strong, sweet tea, may be given if the patient is conscious. Cardiac stimulants may be necessary.

poor answer