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Medical Poster

Medicinal Poisons

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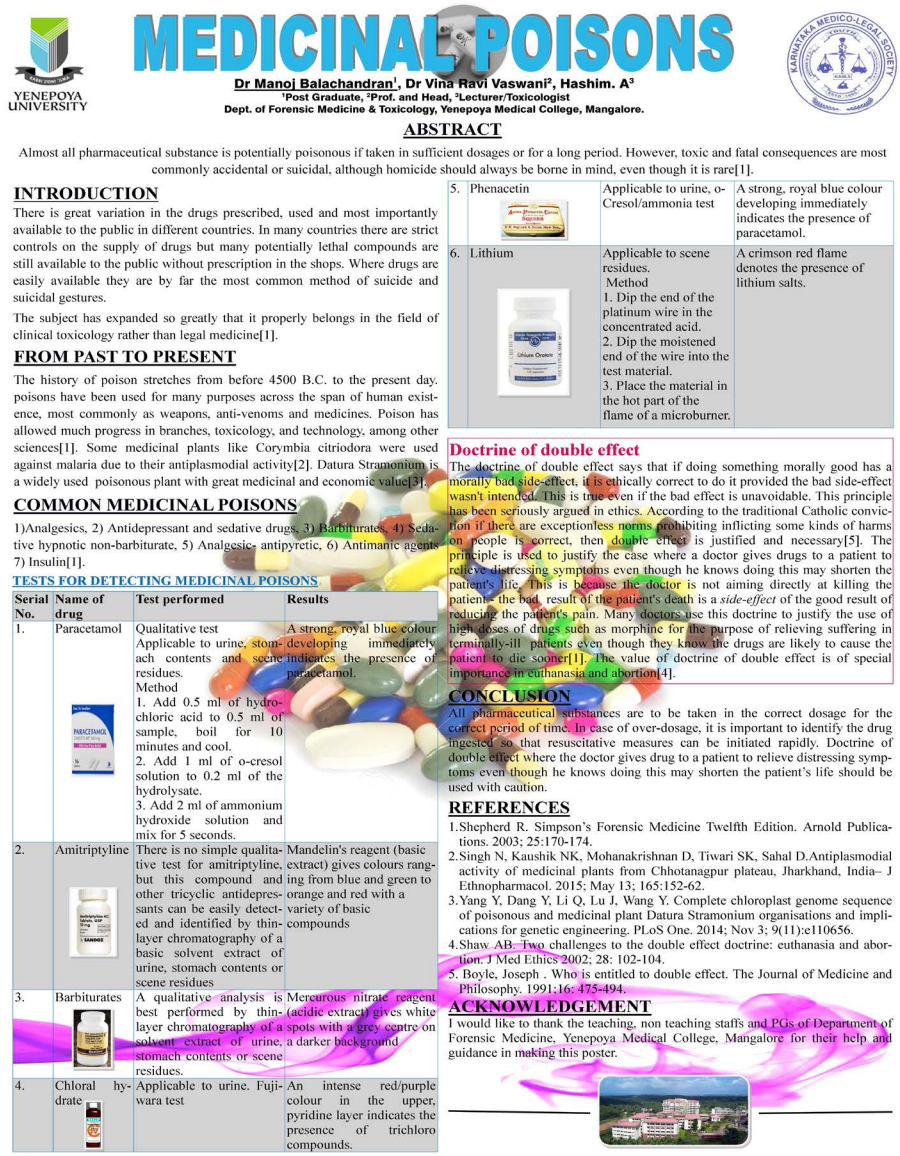

MEDICINAL POISONS

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ABSTRACT

Almost all pharmaceutical substance is potentially poisonous if taken in sufficient dosages or for a long period. However, toxic and fatal consequences are most commonly accidental or suicidal, although homicide should always be borne in mind, even though it is rare[1].

INTRODUCTION

There is great variation in the drugs prescribed, used and most importantly available to the public in different countries. In many countries there are strict controls on the supply of drugs but many potentially lethal compounds are still available to the public without prescription in the shops. Where drugs are easily available they are by far the most common method of suicide and suicidal gestures.

The subject has expanded so greatly that it properly belongs in the field of clinical toxicology rather than legal medicine[1].

FROM PAST TO PRESENT

The history of poison stretches from before 4500 B.C. to the present day. poisons have been used for many purposes across the span of human existence, most commonly as weapons, anti-venoms and medicines. Poison has allowed much progress in branches, toxicology, and technology, among other sciences[1]. Some medicinal plants like Corymbia citriodora were used against malaria due to their antiplasmodial activity[2]. Datura Stramonium is a widely used poisonous plant with great medicinal and economic value[3].

COMMON MEDICINAL POISONS

1)Analgesics, 2) Antidepressant and sedative drugs, 3) Barbiturates, 4) Sedative hypnotic non-barbiturate, 5) Analgesic- antipyretic, 6) Antimanic agents 7) Insulin[1].

TESTS FOR DETECTING MEDICINAL POISONS

Serial No.	Name of drug	Test performed	Results
1.	Paracetamol	Qualitative test Applicable to urine, stomach contents and scene residues. Method 1. Add 0.5 ml of hydrochloric acid to 0.5 ml of sample, boil for 10 minutes and cool. 2. Add 1 ml of o-cresol solution to 0.2 ml of the hydrolysate. 3. Add 2 ml of ammonium hydroxide solution and mix for 5 seconds.	A strong, royal blue colour developing immediately indicates the presence of paracetamol.
2.	Amitriptyline	There is no simple qualitative test for amitriptyline, but this compound and other tricyclic antidepressants can be easily detected and identified by thin-layer chromatography of a basic solvent extract of urine, stomach contents or scene residues	Mandelin's reagent (basic extract) gives colours ranging from blue and green to orange and red with a variety of basic compounds
3.	Barbiturates	A qualitative analysis is best performed by thin-layer chromatography of a solvent extract of urine, stomach contents or scene residues.	Mercurous nitrate reagent (acidic extract) gives white spots with a grey centre on a darker background
4.	Chloral hydrate	Applicable to urine. Fujiwara test	An intense red/purple colour in the upper, pyridine layer indicates the presence of trichloro compounds.
5.	Phenacetin	Applicable to urine, o-Cresol/ammonia test	A strong, royal blue colour developing immediately indicates the presence of paracetamol.
6.	Lithium	Applicable to scene residues. Method 1. Dip the end of the platinum wire in the concentrated acid. 2. Dip the moistened end of the wire into the test material. 3. Place the material in the hot part of the flame of a microburner.	A crimson red flame denotes the presence of lithium salts.

Doctrine of double effect

The doctrine of double effect says that if doing something morally good has a morally bad side-effect, it is ethically correct to do it provided the bad side-effect wasn't intended. This is true even if the bad effect is unavoidable. This principle has been seriously argued in ethics. According to the traditional Catholic conviction if there are exceptionless norms prohibiting inflicting some kinds of harms on people is correct, then double effect is justified and necessary[5]. The principle is used to justify the case where a doctor gives drugs to a patient to relieve distressing symptoms even though he knows doing this may shorten the patient's life. This is because the doctor is not aiming directly at killing the patient - the bad result of the patient's death is a *side-effect* of the good result of reducing the patient's pain. Many doctors use this doctrine to justify the use of high doses of drugs such as morphine for the purpose of relieving suffering in terminally-ill patients even though they know the drugs are likely to cause the patient to die sooner[1]. The value of doctrine of double effect is of special importance in euthanasia and abortion[4].

CONCLUSION

All pharmaceutical substances are to be taken in the correct dosage for the correct period of time. In case of over-dosage, it is important to identify the drug ingested so that resuscitative measures can be initiated rapidly. Doctrine of double effect where the doctor gives drug to a patient to relieve distressing symptoms even though he knows doing this may shorten the patient's life should be used with caution.

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