DIAGNOSTIC AGENTS

INTRODUCTION

Diagnostic agents are the substances used to examine the body in order to detect impairment of its normal functions. Usually these agents find no other use in medicine. Diagnostic agents are divided according to the use as

- drugs used as X-ray contrast media
- drugs used to test organ functions
- drugs used to determine blood volume and haemopoietic function and
- drugs used for miscellaneous agents.

CLASSIFICATION

They are classified according to their test functionalities as

i) Gall bladder function, cholecystography and cholangiography:
eg. Iocetamic acid, Iodipamide, Tyropanoate sodium.

ii) Gastric function: eg. Pentagastrin, Congored.

iii) Liver function: eg. Indocyanine green.

iv) Ophthalmic diagnostic aid: eg. Fluorescein sodium.

v) Pancreatic function: eg. Bentiromide.

vi) Intestinal function: eg. Barium sulfate, Xylose.

vii) Kidney function: eg. Aminohippurate sodium, Indigotin disulfonate, Phenolsulphophthalein.

viii) Lymphatic system: eg. Isosulfan blue.

ix) Bronchial airway hyperacidity: eg. Methacholine.

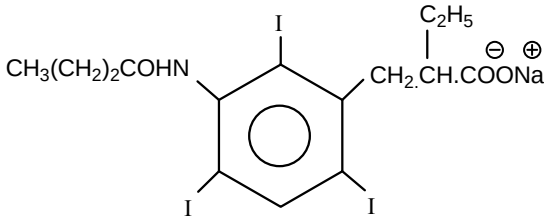
x) Drug – hyper sensitivity: eg. Benzyl penicilloyl polylysine.

xi) Drugs used in X- ray contrast medium: eg. Diatriazoic acid, Iocetamic acid, Iothalamic acid, Propyliodone.

xii) Miscellaneous: eg. Erythrosin sodium, Evans blue.

Gall Bladder Function

Tyropanoate Sodium

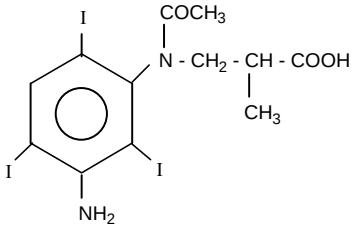


Sodium -3- butyramido - α - ethyl -2,4-6 - triiodo hydrocinnamate

xiii)

Use: It is an oral radio - opaque agent used in cholecystography.

Iocetamic acid



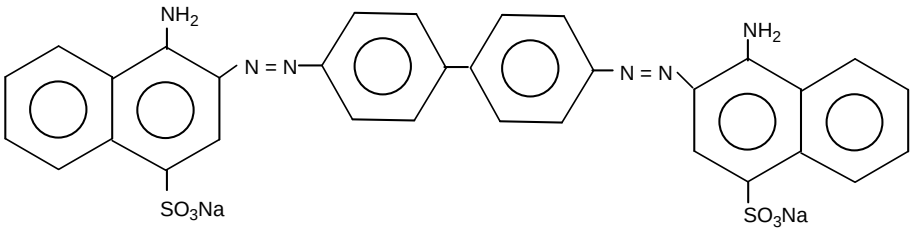
3 - [Acetyl - (3 - amino - 2,4,6 - triiodophenyl) amino] - 2- methyl propanoic acid

xiv)

Use: It is an oral cholecystographic agent used for radiographic visualization of gall bladder.

Gastric Function

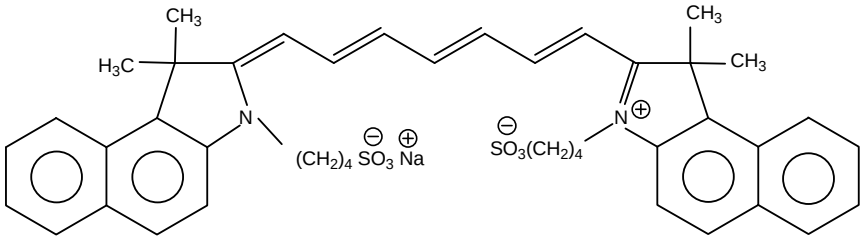
Congo Red



3,3' - [(Biphenyl) - 4,4' - diyl bis (azo)] bisamino - 1 - napthalene sulphonic acid

Liver Function

A. Indocyanine Green

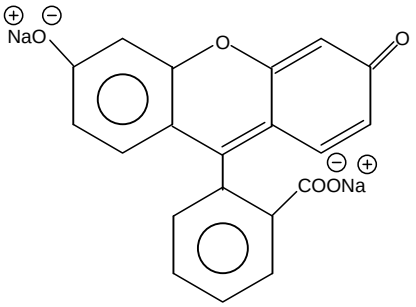


2 - [7- [1,3 - Dihydro - 1,1 - dimethyl - 3- (4 - sulfobutyl) - 2H - benz [e] indol - 2 - ylidene] - 1,3,5 - heptatrienyl] - 1,1 - dimethyl -3 - (4 - sulfobutyl) - 1H - benz[e]- indolium imine sodium salt.

Use: It is used to determine cardiac output, hepatic function and liver blood flow. It is also used to measure plasma volume and regional blood flow in various organs including kidney, eye and lungs.

Ophthalmic Diagnostic Aids

A. Fluorescein Sodium

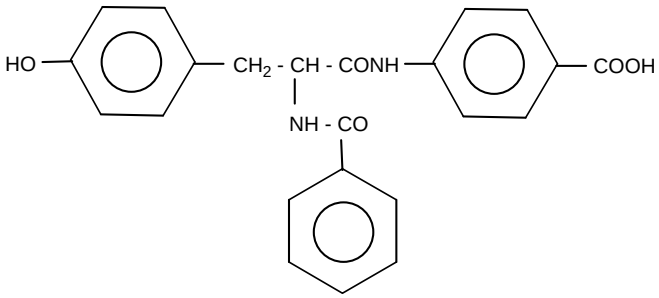


3,6' - Dihydroxy - spiro [isobenzafuran - 1 - (3H), 9' - [9H] xanthene] - 3 - one disodium salt

Use: It is used in ophthalmic practice for detecting corneal lesions and foreign bodies in the eyes.

Pancreatic Function

Bentiromide



4- {[(2- Benzoylamino) -3- (4-hydroxyphenyl) -1- oxopropyl] amino} benzoic acid