

ADRs

Causes of ADRs

ADRs may be due to:

- Drug cause
- Patient cause
- Prescriber's error---
 - Type C D & E
 - Polypharmacy

ADRs

Factors predisposing to ADRs

A) Dose factor:

- Due to administration more than therapeutic dose

excessive insulin



hypoglycaemia

ADRs

B) Pharmaceutical factor:

- Due to wrong pharmaceutical preparation

Slow release NSAID



Release in high concentration due to faulty preparation



GIT bleeding

C) Pharmacokinetic factor:

- Due to decrease kinetic activities

Sulfonylurea



Decreased elimination in renal insufficiency



Hypoglycaemia

ADRs

D) Pharmacodynamic factor:

- Due to drug's mechanism of action

NSAID



LVF due to salt & water retention

E) Polypharmacy: Drug-drug interaction factor:

Erythromycin + terfenadine = Arrhythmia

Other factors:

- age
- gender
- multiple disease
- allergy

ADRs

Prevention of ADRs

- Whenever a drug is given a risk is taken
- Risks may be avoidable or unavoidable

30-50% ADRs are preventable

- Drug interaction
- Inappropriate medication
- Unnecessary medication

ADRs

Reduction of ADRs can be achieved by:

- Better knowledge of diseases
- Better knowledge of drugs
- Site-specific delivery
- Informed, careful and responsible prescribing

Management of ADRs:

- ❑ Mild ADRs can often be recognized before they become serious.
- ❑ If an ADR occurs, the type and precipitating factors must be determined immediately if possible.

Management of ADRs:

Discontinue the offending agent if:

- it can be safely stopped
- the event is life-threatening or intolerable
- there is a reasonable alternative

Continue the medication (modified as needed) if:

- it is medically necessary
- there is no reasonable alternative
- the problem is mild and will resolve with time

Management of ADRs:

- ❑ Discontinue non-essential medications
- ❑ Administer appropriate treatment
 - ❑ e.g., atropine, antihistamines, epinephrine, corticosteroids, glucagon etc
- ❑ Provide supportive or palliative care
 - ❑ e.g., hydration, glucocorticoids, warm / cold compresses, analgesics etc
- ❑ Consider desensitization

Management of ADRs:

Generally,

For dose-related ADRs:

Modify the dose or reduce precipitating factors

For ADRs unrelated to dose:

The drug usually should be withdrawn and re-exposure should be avoided.