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## **Ranitidine**

### **Core Safety Profile**

#### **4.3 Contraindications**

Ranitidine products are contraindicated in patients known to have hypersensitivity to any component of the preparation.

#### **4.4 Warnings and Precautions**

The possibility of malignancy should be excluded before commencement of therapy in patients with gastric ulcer [and if indications include dyspepsia; patients of middle age and over with new or recently changed dyspeptic symptoms must be included] as treatment with ranitidine may mask symptoms of gastric carcinoma.

Ranitidine is excreted via the kidney and so plasma levels of the drug are increased in patients with severe renal impairment.

The dosage should be adjusted as detailed above under Dosage and Administration in Section 4.2 in renal impairment.

Rare clinical reports suggest that ranitidine may precipitate acute porphyric attacks. Ranitidine should therefore be avoided in patients with a history of acute porphyria.

In patients such as the elderly, persons with chronic lung disease, diabetes or the immune compromised, there may be an increased risk of developing community acquired pneumonia.

A large epidemiological study showed an increased risk of developing community acquired pneumonia in current users of ranitidine alone H<sub>2</sub> receptor antagonists versus those who had stopped treatment, with an observed adjusted relative risk increase of 1,82 (95% CI 1,26-2,64). [7, 8]

#### **Oral formulations only:**

Regular supervision of patients who are taking non-steroidal anti-inflammatory drugs concomitantly with ranitidine is recommended, especially in the elderly and in those with a history of peptic ulcer. [Mandatory statement if indications include NSAID associated peptic ulcer].

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### **Chewable Tablets, Effervescent Tablets and Effervescent Granules:**

As ranitidine chewable and effervescent tablets/granules# contain aspartame they should be used with caution in patients with phenylketonuria.

#### **Chewable Tablets:**

Ranitidine chewable tablets contain 2.6 g of sucrose per tablet. This should be considered when prescribing ranitidine chewable tablets to patients who must restrict their sugar intake.

Long-term treatment with ranitidine chewable tablets increases the risk of dental caries. It is important that adequate dental hygiene is maintained.

#### **Effervescent Tablets and Granules:**

Ranitidine effervescent tablets/granules # contain sodium (*see Excipients Section 6.1 for sodium content*).

Care should therefore be taken in treating patients in whom sodium restriction is indicated.

#### **Injection:**

Bradycardia in association with rapid administration of ranitidine injection has been reported rarely, usually in patients with factors predisposing to cardiac rhythm disturbances. Recommended rates of administration should not be exceeded.

The use of higher than recommended doses of i.v. H<sub>2</sub>- antagonists has been associated with rises in liver enzymes when treatment has been extended beyond five days.

# delete as applicable (NB aspartame warning for aspartame-containing formulation of effervescent tablets only)

#### **Syrup:**

Zantac syrup contains approximately 7.5%w/v ethanol (alcohol), i.e. up to 405 mg per 5ml spoonful which is equivalent to about 11ml of beer or 5ml of wine. It is harmful for those suffering from alcoholism. It should be taken into account in pregnant or lactating women, high risk groups (those suffering from alcoholism,

liver disease, epilepsy, brain injury or disease) and children (see section 4.2). It may modify or increase the effect of other medicines.

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## 4.5 Interactions

Ranitidine has the potential to affect the absorption, metabolism or renal excretion of other drugs. The altered pharmacokinetics may necessitate dosage adjustment of the affected drug or discontinuation of treatment.

Interactions occur by several mechanisms including:

1) Inhibition of cytochrome P450-linked mixed function oxygenase system:

Ranitidine at usual therapeutic doses does not potentiate the actions of drugs which are inactivated by this enzyme system such as diazepam, lidocaine, phenytoin, propranolol and theophylline.

There have been reports of altered prothrombin time with coumarin anticoagulants (e.g. warfarin). Due to the narrow therapeutic index, close monitoring of increased or decreased prothrombin time is recommended during concurrent treatment with ranitidine.

2) Competition for renal tubular secretion:

Since ranitidine is partially eliminated by the cationic system, it may affect the clearance of other drugs eliminated by this route. High doses of ranitidine (e.g. such as those used in the treatment of Zollinger-Ellison syndrome) may reduce the excretion of procainamide and N-acetylprocainamide resulting in increased plasma levels of these drugs.

3) Alteration of gastric pH:

The bioavailability of certain drugs may be affected. This can result in either an increase in absorption (e.g. triazolam, midazolam, glipizide) or a decrease in absorption (e.g. ketoconazole, atazanavir, delavirdine, gefitinib).

### Oral Formulations:

There is no evidence of an interaction between ranitidine and amoxicillin and metronidazole.

If high doses (2g) of sucralfate are co-administered with ranitidine the absorption of the latter may be reduced. This effect is not seen if sucralfate is taken after an interval of 2 h.

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## **4.6 Pregnancy and Lactation**

### **Fertility**

*No Text.*

### **Pregnancy**

Ranitidine crosses the placenta. Like other drugs ranitidine should only be used during pregnancy if considered essential.

### **LACTATION**

Ranitidine is excreted in human breast milk. Like other drugs ranitidine should only be used during nursing if considered essential.

## **4.7 Ability to perform tasks that require judgement, motor or cognitive skills**

None reported.

## **4.8 Adverse Reactions**

The following convention has been utilised for the classification of undesirable effects: very common

(>1/10), common (>1/100, <1/10), uncommon (>1/1000, <1/100), rare (>1/10,000, <1/1000), very rare

(<1/10,000).

Adverse event frequencies have been estimated from spontaneous reports from post-marketing data.

### **Blood & Lymphatic System Disorders**

Very Rare: Blood count changes (leucopenia, thrombocytopenia). These are usually reversible. Agranulocytosis or pancytopenia, sometimes with marrow hypoplasia or marrow aplasia

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### **Immune System Disorders**

Rare: Hypersensitivity reactions (urticaria, angioneurotic oedema, fever, bronchospasm, hypotension and chest pain).

Very Rare: Anaphylactic shock

These events have been reported after a single dose.

### **Psychiatric Disorders**

Very Rare: Reversible mental confusion, depression and hallucinations.

These have been reported predominantly in severely ill and elderly patients.

### **Nervous System Disorders**

Very Rare: Headache (sometimes severe), dizziness and reversible involuntary

movement disorders.

### **Eye Disorders**

Very Rare: Reversible blurred vision.

There have been reports of blurred vision, which is suggestive of a change in accommodation.

### **Cardiac Disorders**

Very Rare: As with other H<sub>2</sub> receptor antagonists bradycardia, A-V block and asystole (*injection only*).

### **Vascular Disorders**

Very Rare: Vasculitis.

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## **Gastrointestinal Disorders**

Very Rare: Acute pancreatitis

Uncommon: abdominal pain, diarrhoea, constipation, nausea (these symptoms mostly improved during continued treatment).

## **Hepatobiliary Disorders**

Rare: Transient and reversible changes in liver function tests.

Very Rare: Hepatitis (hepatocellular, hepatocanalicular or mixed) with or without

jaundice, these were usually reversible.

## **Skin and Subcutaneous Tissue Disorders**

Rare: Skin rash.

Very Rare: Erythema multiforme, alopecia.

## **Musculoskeletal and Connective Tissue Disorders**

Very Rare: Musculoskeletal symptoms such as arthralgia and myalgia.

## **Renal and Urinary Disorders**

Very rare: Acute interstitial nephritis [6]. Rare: elevation of plasma creatinine (usually slight; normalised during continued treatment)

## **Reproductive System and Breast Disorders**

Very Rare: Reversible impotence [3], breast symptoms and breast conditions (such as gynaecomastia and galactorrhoea)

## **Paediatric population**

The safety of ranitidine has been assessed in children aged 0 to 16 years with acid-related disease and was generally well tolerated with an adverse

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event profile resembling that in adults. There are limited long term safety data available, in particular regarding growth and development.

#### **4.9 Overdosage**

##### **Symptoms and Signs**

Ranitidine is very specific in action and no particular problems are expected following overdosage with ranitidine formulations.

##### **Treatment**

Symptomatic and supportive therapy should be given as appropriate.