

## **1. NAME OF THE MEDICINAL PRODUCT**

Pentasa® enema

## **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each Pentasa enema bottle contains: 1g mesalazine in 100ml.

For full list of excipients, see section 6.1.

## **3. PHARMACEUTICAL FORM**

Rectal suspension.

Each bottle contains 100ml of a colourless to faint yellow suspension with a pH value between 4.4 and 5.0.

## **4. CLINICAL PARTICULARS**

### **4.1 Therapeutic indications**

Treatment of Ulcerative Colitis and Crohn's disease.

### **4.2 Posology and method of administration**

1 enema at bedtime

Method of administration:

For rectal use.

A visit to the toilet is recommended before administration of enemas and suppositories, see separate instructions for use. Shake the enema container well before use. The enema is protected by an aluminum foil bag and should be used immediately after opening of the bag.

### **4.3 Contraindications**

Pentasa is contraindicated in:

- patients with known hypersensitivity to mesalazine, salicylates or any of the excipients, listed in section 6.1.
- patients with severe liver and/or renal impairment

### **4.4 Special warnings and precautions for use**

Caution is recommended when treating patients allergic to sulphasalazine (risk of allergy to salicylates). Severe cutaneous adverse reactions, including Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), have been reported in association with mesalazine treatment. In case of acute symptoms of intolerance, i.e. abdominal cramps, abdominal pain, fever and severe headache, and/or the first appearance of signs and symptoms of severe skin reactions, such as skin rash, mucosal lesions, or any other signs of hypersensitivity, the treatment should be discontinued immediately.

Caution is recommended in patients with impaired liver function. Liver function parameters like ALT or AST should be assessed prior to and during treatment, at the discretion of the treating physician.

The drug is not recommended for use in patients with impaired renal function and in patients with haemorrhagic diathesis. Baseline renal function measurement is required in all patients initiating treatment with mesalazine. Urinary status (dip sticks) should be determined prior to and during treatment at the discretion of the treating physician. The renal function should be regularly monitored (e.g. serum creatinine), especially during the initial phase of treatment based on clinical judgment taking baseline renal function into account. Mesalazine-induced

renal toxicity should be suspected in patients developing renal dysfunction during treatment. The concurrent use of other known nephrotoxic agents, such as NSAIDs and azathioprine, may increase the risk of renal reactions. Treatment should be discontinued if renal function deteriorates.

Patients with pulmonary disease, in particular asthma, should be very carefully monitored during a course of treatment, please refer to section 4.8.

Mesalazine-induced cardiac hypersensitivity reactions (myo- and pericarditis) have been reported rarely. Serious blood dyscrasias have been reported very rarely with mesalazine (see section 4.5). Blood tests for differential blood counts is recommended prior to and during treatment, at the discretion of the treating physician. Treatment should be discontinued on suspicion or evidence of these adverse reactions.

Cases of nephrolithiasis have been reported with the use of mesalazine including stones with a 100% mesalazine content. It is recommended to ensure adequate fluid intake during treatment.

As a guideline, follow-up tests are recommended 14 days after commencement of treatment, then a further two to three tests at intervals of 4 weeks. If the findings are normal, follow-up tests should be carried out every three months. If additional symptoms occur, these tests should be performed immediately.

If a patient develops dehydration while on treatment with mesalazine, normal electrolyte levels and fluid balance should be restored as soon as possible.

#### **4.5 Interaction with other medicinal products and other forms of interaction**

No interaction studies have been performed. Combination therapy with PENTASA and azathioprine, or 6-mercaptopurine or thioguanine, have shown a higher frequency of myelosuppressive effects and an interaction cannot be ruled out, however, the mechanism behind the interaction is not established. Regular monitoring of white blood cells is recommended and the dosage regimen of thiopurine should be adjusted accordingly. There is weak evidence that mesalazine might decrease the anticoagulant effect of warfarin.

#### **4.6 Fertility, pregnancy and lactation**

Pentasa should not be used during pregnancy and lactation except when the potential benefit outweighs the possible hazards in the opinion of the physician. The underlying condition itself (Inflammatory bowel disease (IBD)) may increase risks for adverse pregnancy outcome.

Pregnancy: Mesalazine is known to cross the placental barrier and its concentration in umbilical cord plasma is lower than the concentration in maternal plasma. The metabolite acetyl-mesalazine is found at similar concentrations in umbilical cord and maternal plasma. Animal studies on oral mesalazine do not indicate direct or indirect harmful effects with respect to pregnancy, embryonic/fetal development, parturition or postnatal development. There are no adequate and well controlled studies for Pentasa use in pregnant women. Limited published human data on mesalazine show no increase in the overall rate of congenital malformations. Some data show an increased rate of preterm birth, stillbirth, and low birth weight; however, these adverse pregnancy outcomes are also associated with active inflammatory bowel disease.

Blood disorders (leucopenia, thrombocytopenia, anaemia) have been reported in new-borns of mothers being treated with PENTASA. In one single case after long-term use of a high dose of mesalazine (2-4 g, orally) during pregnancy, renal failure in a neonate was reported.

Breast-feeding: Mesalazine is excreted in breast milk. The mesalazine concentration in breast milk is lower than in maternal blood, whereas the metabolite, acetyl-mesalazine appears in similar or increased concentrations. No controlled studies with PENTASA during breast-feeding have been carried out. Only limited experience during lactation in women after oral

application is available to date. Hypersensitivity reactions like diarrhoea in the infant cannot be excluded. If the infant develops diarrhoea, breast-feeding should be discontinued.

#### Fertility

Animal data on mesalazine show no effect on male and female fertility

#### **4.7 Effects on ability to drive and use machines**

No effects on the ability to drive and use machines have been observed.

#### **4.8 Undesirable effects**

The most frequent adverse reactions seen in clinical trials are diarrhoea, nausea, abdominal pain, headache, vomiting, and rash. Hypersensitivity reactions and drug fever may occasionally occur, and severe cutaneous adverse reactions, including Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), have been reported in association with mesalazine treatment (see section 4.4).

Following rectal administration local reactions such as pruritis, rectal discomfort and urge may occur.

*Frequency of adverse effects, based on clinical trials and reports from post-marketing surveillance*

<b>SOC</b>	<b>Common ≥1/100 to &lt; 1/10</b>	<b>Rare ≥1/10,000 to ≤ 1/1,000</b>	<b>Very rare ≤ 1/10,000</b>	Not known (cannot be estimated from the available data).
Blood and the lymphatic system disorders			Altered blood counts (anaemia, aplastic anaemia, agranulocytosis, neutropenia, leucopenia (incl. granulocytopenia), pancytopenia, thrombocytopenia, and eosinophilia (as part of an allergic reaction),	
Immune system disorders			Hypersensitivity reactions incl. anaphylactic reaction, Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)	
Nervous system disorders	Headache	Dizziness	Peripheral neuropathy	
Cardiac disorders		Myocarditis* Pericarditis*		
Respiratory, thoracic and mediastinal disorders			Allergic alveolitis, allergic and fibrotic lung reactions (incl. dyspnoea, coughing, bronchospasm, pulmonary eosinophilia, interstitial lung disease, pulmonary	

			infiltration, pneumonitis)	
Gastrointestinal disorders	Diarrhoea, abdominal pain, nausea, vomiting, flatulence	acute pancreatitis*, increased amylase (blood and/or urine),	pancolitis	
Hepato-biliary disorders			Increased liver enzymes, cholestasis parameters and bilirubin, hepatotoxicity (incl.hepatitis*, cholestatic hepatitis, cirrhosis, hepatic failure)	
Skin and subcutaneous tissue disorders	Rash (incl. urticaria, erythematous rash)	Photosensitivity**	Alopecia (reversible), dermatitis allergic, erythema multiform	Stevens-Johnson Syndrome (SJS)/Toxic epidermal necrolysis (TEN)
Musculoskeletal connective tissue and bone disorders			Myalgia, arthralgia, lupus erythematosus-like syndrome	
Renal and urinary disorders			Renal function impairment **** (incl. interstitial nephritis* (acute and chronic), nephrotic syndrome, renal insufficiency (acute and chronic), urine discolouration	Nephrolithiasis***
Reproductive system disorders			Oligospermia (reversible)	
General disorders and Administration site conditions	Anal discomfort and irritation at the application site, pruritus (anal), rectal tenesmus		Drug fever	

\* The mechanism of mesalazine induced myo- and pericarditis, pancreatitis, nephritis and hepatitis is unknown, but it might be of allergic origin.

\*\* Photosensitivity: More severe reactions are reported in patients with pre-existing skin conditions such as atopic dermatitis and atopic eczema.

(\*\*\*)see section 4.4 for further information.

\*\*\* Renal failure has been reported. Mesalazine-induced nephrotoxicity should be suspected in patients developing renal dysfunction during treatment.

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to the Ministry of Health according to the National Regulation by using an online form <https://sideeffects.health.gov.il/>

## **4.9 Overdose**

#### Acute experience in animals:

A single intravenous dose of mesalazine in rats of 920 mg/kg and single oral doses of mesalazine of up to 5g/kg in pigs were not lethal.

#### Human experience:

There is limited clinical experience with overdose of PENTASA which does not indicate renal or hepatic toxicity. Since PENTASA is an amino salicylate, symptoms of salicylate toxicity may occur. Symptoms of salicylate over dosage are well described in the literature.

There have been reports of patients taking oral daily doses of 8 grams for a month without any adverse events. There is no specific antidote and treatment is symptomatic and supportive. The treatment at hospital includes close monitoring of renal function.

## **5. PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic Properties**

Pharmacotherapeutic group: Intestinal anti-inflammatory agents, aminosalicylic acid and similar agents

Mesalazine is the active component of sulphasalazine, which has been used for a long time in the treatment of ulcerative colitis and Crohn's disease. The therapeutic value of mesalazine appears to be due to local effect on the inflamed intestinal tissue, rather than to systemic effect. There is information suggesting that severity of colonic inflammation in ulcerative colitis patients treated with mesalazine is inversely correlated with mucosal concentrations of mesalazine.

Increased leucocyte migration, abnormal cytokine production, increased production of arachidonic acid metabolites, particularly leukotriene B<sub>4</sub> and increased free radical formation in the inflamed intestinal tissue are all present in patients with inflammatory bowel disease. The mechanism of action of mesalazine is not fully understood although mechanisms such as activation of the  $\gamma$ -form of peroxisome proliferator-activated receptors (PPAR- $\gamma$ ) and inhibition of nuclear factor-kappa B (NF- $\kappa$ B) in the intestinal mucosa have been implicated. Mesalazine has in-vitro and in-vivo pharmacological effects that inhibit leucocyte chemotaxis, decrease cytokine and leukotriene production and scavenge for free radicals. It is currently unknown which, if any of these mechanisms play a predominant role in the clinical efficacy of mesalazine.

### **5.2 Pharmacokinetic Properties**

#### **General characteristics of the active substance:**

#### Disposition and local availability:

The therapeutic activity of mesalazine most likely depends on a local contact of the drug with the diseased area of the intestinal mucosa. PENTASA enemas are designed to provide the distal part of the intestinal tract with high concentrations of mesalazine and a low systemic absorption. The enemas have been shown to reach and cover the descending colon.

#### Absorption:

The absorption following rectal administration is low, but depends on the dose, the formulation and the extent of spread. Based on urine recoveries in healthy volunteers under steady-state conditions given a daily dose of 2g (1g x 2), about 15-20% of the dose is absorbed after administration of enemas.

#### Distribution:

Mesalazine and acetyl mesalazine do not cross the blood-brain barrier. Protein binding of mesalazine is approximately 50% and of acetyl mesalazine about 80%.

#### Metabolism:

Mesalazine is metabolised both pre-systemically by the intestinal mucosa and systemically in the liver to N-acetyl mesalazine (acetyl mesalazine) principally by NAT-1. The acetylation seems to be independent of the acetylator phenotype of the patient. Some acetylation also occurs through the action of colonic bacteria. The acetylation seems to be independent of the acetylator phenotype of the patient.

Acetyl mesalazine is thought to be clinically as well as toxicologically inactive, although this remains to be confirmed.

#### Elimination:

The plasma half-life of pure mesalazine is approximately 40 minutes and for acetyl mesalazine approximately 70 minutes. Both substances are excreted in urine and faeces. The urinary excretion consists mainly of acetyl mesalazine.

#### Characteristics in patients:

The systematic absorption following administration of PENTASA has been shown to be significantly decreased in patients with active ulcerative colitis compared to those in remission.

### **5.3 Preclinical Safety Data**

Toxic renal effects have been demonstrated in all species tested. Rat and monkey dosages and plasma concentrations at the No Observed Adverse Effect Levels (NOAELs) exceed those used in humans by a factor of 2-7.2.

In vitro test systems and in-vivo studies showed no evidence of mutagenic effects. Studies on the tumourigenic potential carried out in rats showed no evidence of any substance-related increase in the incidence of tumours.

Animal studies on oral mesalazine do not indicate direct or indirect harmful effects with respect to fertility, pregnancy, embryo-foetal development, parturition or postnatal development.

Mesalazine is deemed not to pose a risk to the environment at the doses prescribed for use in patients

## **6. PHARMACEUTICAL PARTICULARS**

### **6.1. List of excipients**

Disodium edetate, sodium metabisulphite, sodium acetate, purified water, concentrated hydrochloric acid.

### **6.2. Incompatibilities**

Not applicable

### **6.3. Shelf Life**

The expiry date of the product is indicated on the packaging materials

### **6.4. Storage Conditions**

Store below 25°C in the original package, do not freeze.

### **6.5. Nature and Contents of Container**

Polyethylene enema bottles fitted with a tip and valve for rectal application, supplied in nitrogen-filled aluminium-foil bags. Presented in cartons containing 7 x 100ml bottles individually foil-wrapped.

## **7. LICENSE NUMBER**

Pentasa Enema: 137 64 23871

8. **MANUFACTURER:** Ferring GmbH, Germany

9. **LICENSE HOLDER:** Ferring Pharmaceuticals Ltd

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**This leaflet was revised in November 2022 according to MOH guidelines.**