

1. Name of the medicinal product

PROTOCID 500mg tablets

2. Qualitative and quantitative composition

Each PROTOCID 500mg Tablet contains 500mg of Tinidazole.

3. Pharmaceutical form

Orange, round, film-coated biconvex tablet

4. Clinical particulars

4.1 Therapeutic indications

For the oral treatment of Trichomonas Vaginalis infections of the genitourinary tract in both female and male. For the prevention of anaerobic infections after gynecological operations and stomach operations.

4.2 Posology and method of administration

It is recommended that PROTOCID be taken during or after a meal

Prevention of postoperative infections:

Adult

Oral: A single oral dose of 2 g approximately 12 hours before surgery.

Children less than 12 years

Data are not available to permit dosage recommendations for prophylaxis of anaerobic infections in children below the age of 12 years.

Urogenital trichomoniasis:

When infection with Trichomonas vaginalis is confirmed, simultaneous treatment of the consort is recommended.

Adult Preferred Regimen

A single oral dose of 2 g.

Adult Alternative Regimen

One 150 mg tablet orally three times daily for 5 days, or one 150 mg tablet orally twice daily for 7 days.

Children

A single dose of 50 to 75 mg/kg of body weight. It may be necessary to repeat this dose once in some cases.

Use in Renal Impairment

Dosage adjustments in patients with impaired renal function are generally not necessary. However, because tinidazole is easily removed by haemodialysis, patients may require additional doses of tinidazole to compensate.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

As with other drugs of similar structure, tinidazole is contraindicated in patients having, or with a history of, blood dyscrasia, although no persistent haematological abnormalities have been noted in clinical or animal studies.

Tinidazole should be avoided in patients with organic neurological disorders.

Tinidazole, other 5-nitroimidazole derivatives or any of the components of this product should not be administered to patients with known hypersensitivity to the drug.

Use of tinidazole is contraindicated during the first trimester of pregnancy and in nursing mothers (see section 4.6).

4.4 Special warnings and precautions for use

As with related compounds, alcoholic beverages should be avoided during PROTOCIDÉ therapy because of the possibility of a disulfiram-like reaction (flushing, abdominal cramps, vomiting, tachycardia). Alcohol should be avoided until 72 hours after discontinuing PROTOCIDÉ .

Drugs of similar chemical structure have also produced various neurological disturbances such as dizziness, vertigo, incoordination and ataxia. If during therapy with PROTOCIDÉ abnormal neurological signs develop, therapy should be discontinued.

Carcinogenicity has been seen in mice and rats treated chronically with metronidazole, another nitroimidazole agent. Although carcinogenicity data is not available for tinidazole, the two drugs are structurally related and therefore there is a potential for similar biologic effects. Mutagenicity results with tinidazole were mixed (positive and negative) (see section 5.3). The use of tinidazole for longer treatment than usually required should be carefully considered.

4.5 Interaction with other medicinal products and other forms of interaction

Alcohol: Concurrent use of tinidazole and alcohol may produce a disulfiram-like reaction and should be avoided, (see section 4.4).

Anticoagulants: Drugs of similar chemical structure have been shown to potentiate the effects of oral anticoagulants. Prothrombin time should be closely monitored and adjustments to the dose of the anticoagulants should be made as necessary.

4.6 Fertility, pregnancy and lactation

Pregnancy

Animal studies have shown reproductive toxicity (see section 5.3). Tinidazole crosses the placental barrier. Since the effects of compounds of this class on foetal development are unknown, tinidazole is contraindicated in the first trimester of pregnancy.

There is no evidence that tinidazole is harmful during the latter stages of pregnancy, but it should be used in the second and third trimesters only in cases where it is absolutely necessary, when the benefits of therapy outweigh possible risks to both mother and foetus (see section 5.3).

Breast-feeding

Tinidazole is excreted in breast milk. Tinidazole may continue to appear in breast milk for more than 72 hours after administration. Women should not nurse until at least 3 days after having discontinued taking PROTOCIDÉ.

Fertility

There are no human data on the effect of tinidazole on fertility. Male and female fertility may be impacted based on animal studies that have shown adverse effects on male and female fertility (see section 5.3).

4.7 Effects on ability to drive and use machines

No special precautions should be necessary. However, drugs of similar chemical structure, including PROTOCIDÉ , have been associated with various neurological disturbances such as dizziness, vertigo, ataxia, peripheral neuropathy (paraesthesia, sensory disturbances, hypoaesthesia) and rarely convulsions. If any abnormal neurological signs develop during PROTOCIDÉ therapy, the drug should be discontinued.

4.8 Undesirable effects

Reported side effects have generally been infrequent, mild and self-limiting.

The reported undesirable effects are listed below according to MedDRA system organ class classification and frequency. Within each frequency category, the ADRs are presented in the order of clinical importance. Frequency categories are expressed as: very common ($\geq 1/10$); common ($\geq 1/100$ to $< 1/10$); uncommon ($\geq 1/1,000$ to $< 1/100$); rare ($\geq 1/10,000$ to $< 1/1,000$); very rare ($< 1/10,000$); not known (the frequency cannot be estimated from the available data).

<i>System Organ Class</i>	<i>Common</i>	<i>Not known</i>
Blood and the lymphatic system disorders		Leukopenia
Immune system disorders		Drug hypersensitivity
Metabolism and nutrition disorders	Decreased appetite	
Nervous system disorders	Headache	Convulsions Neuropathy peripheral Paraesthesia Hypoaesthesia Sensory disturbances Ataxia Dizziness Dysgeusia
Ear and labyrinth disorders	Vertigo	
Vascular disorders		Flushing
Gastrointestinal disorders	Vomiting Diarrhoea Nausea	Glossitis Stomatitis Tongue discolouration

	Abdominal pain	
Skin and subcutaneous tissue disorders	Dermatitis allergic Pruritis	Angioedema Urticaria
Renal and urinary disorders		Chromaturia
General disorders and administration site conditions		Pyrexia Fatigue

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.

Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form (<https://sideeffects.health.gov.il/>)

Additionally, you can report to “[Unipharm Ltd](#)”.

4.9 Overdose

Signs and symptoms of overdose: There are no reported overdoses in humans with PROTOCIDE.

Treatment for overdose: There is no specific antidote for treatment of overdose with tinidazole. Treatment is symptomatic and supportive. Gastric lavage may be useful. Tinidazole is easily dialysable.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antiinfectives for systemic use

ATC code: J 01XD02

PROTOCIDE is active against both protozoa and obligate anaerobic bacteria. The activity against protozoa involves *Trichomonas vaginalis*, *Entamoeba histolytica* and *Giardia lamblia*.

The mode of action of PROTOCIDE against anaerobic bacteria and protozoa involves penetration of the drug into the cell of the micro-organism and subsequent damage of DNA strands or inhibition of their synthesis.

PROTOCIDE is active against *Helicobacter pylori*, *Gardnerella vaginalis* and most anaerobic bacteria including *Bacteroides fragilis*, *Bacteroides melaninogenicus*, *Bacteroides* spp., *Clostridium* spp., *Eubacterium* spp., *Fusobacterium* spp., *Peptococcus* spp., *Peptostreptococcus* spp. and *Veillonella* spp.

Helicobacter pylori (*H.pylori*) is associated with acid peptic disease including duodenal ulcer and gastric ulcer in which about 95% and 80% of patients respectively are infected with this agent. *H.pylori* is also implicated as a major contributing factor in the development of gastritis and ulcer recurrence in such patients. Evidence suggests a causative link between *H.pylori* and gastric carcinoma.

Clinical evidence has shown that the combination of PROTOCID with omeprazole and clarithromycin eradicates 91-96% of *H.pylori* isolates.

Various different *H.pylori* eradication regimens have shown that eradication of *H.pylori* heals duodenal ulcers and reduces the risk of ulcer recurrence.

5.2 Pharmacokinetic properties

PROTOCID is rapidly and completely absorbed following oral administration. In studies with healthy volunteers receiving 2g tinidazole orally, peak serum levels of 40-51 micrograms/ml were achieved within two hours and decreased to between 11-19 micrograms/ml at 24 hours. Healthy volunteers who received 800mg and 1.6g tinidazole IV over 10-15 minutes achieved peak plasma concentrations that ranged from 14 to 21mcg/ml for the 800mg dose and averaged 32mcg/ml for the 1.6g dose. At 24 hours postinfusion, plasma levels of tinidazole decreased to 4-5mcg/ml and 8.6mcg/ml respectively, justifying once daily dosing. Plasma levels decline slowly and tinidazole can be detected in plasma at concentrations of up to 1 microgram/ml at 72 hours after oral administration. The plasma elimination half-life for tinidazole is between 12-14 hours.

Tinidazole is widely distributed in all body tissues and also crosses the blood brain barrier, obtaining clinically effective concentrations in all tissues. The apparent volume of distribution is about 50 litres. About 12% of plasma tinidazole is bound to plasma protein.

Tinidazole is excreted by the liver and kidneys. Studies in healthy patients have shown that over 5 days, 60-65% of an administered dose is excreted by the kidneys with 20-25% of the administered dose excreted as unchanged tinidazole. Up to 5% of the administered dose is excreted in the faeces.

Studies in patients with renal failure (creatinine clearance <22ml/min) indicate that there is no statistically significant change in tinidazole pharmacokinetic parameters in these patients, (see section 4.2).

5.3 Preclinical safety data

Repeat-dose toxicity

In a repeat-dose toxicity study in beagle dogs, oral administration of tinidazole increased atrophy of the thymus in both sexes at 300 and 600 mg/kg/day, and atrophy of the prostate in males at all doses of 100, 300 and 600 mg/kg/day. The initial highest dose of 1000 mg/kg/day was lowered to 600 mg/kg/day due to severe clinical signs. The no-observed-adverse-effect level for females was 100 mg/kg/day (approximately 0.9 times the highest human dose based upon plasma AUC).

Genotoxicity/carcinogenicity

Tinidazole showed some evidence of mutagenic potential. In an in vitro mutagenicity assay, tinidazole was mutagenic in the TA 100, *S. typhimurium* tester strain both with and without metabolic activation. Tinidazole was negative for mutagenicity in a mammalian cell culture system utilising Chinese hamster lung V79 cells (HGPRT test system) and negative for genotoxicity in the Chinese hamster ovary (CHO) sister chromatid exchange assay. Tinidazole was positive for *in vivo* genotoxicity in the mouse micronucleus assay.

Tinidazole carcinogenicity studies in rats, mice or hamsters have not been reported. However, metronidazole, a chemically-related nitroimidazole, has been reported to be carcinogenic in mice and rats but not hamsters. In several studies metronidazole showed evidence of pulmonary, hepatic, and lymphatic tumorigenesis in mice and mammary and hepatic tumours in female rats.

Reproductive and developmental toxicity

Tinidazole did not cause malformations in mice or rats. In rats, oral administration of tinidazole reduced embryo-foetal viability and growth retardation (reduced foetal weight and increased skeletal variations) from 500 mg/kg/day (approximately 2 times the highest human therapeutic dose based upon body surface area). In a rat developmental toxicity study, a higher incidence of foetal mortality was noted following oral administration of 600 mg/kg (approximately 3 times the highest human therapeutic dose based upon body surface area). Embryo-foetal toxicity was not observed in mice at the highest dose level of 2,500 mg/kg (approximately 6 times the highest human therapeutic dose based upon body surface area).

In a male rat fertility study, oral administration of tinidazole reduced fertility at 600 mg/kg/day. Degeneration of the seminiferous tubules in the testes with corresponding effects on spermatogenic measures were noted at 300 and 600 mg/kg/day. The NOAEL for testicular and spermatogenic effects was 100 mg/kg/day (approximately 0.5 times the highest human therapeutic dose based upon body surface area). In another study, oral administration of tinidazole reduced fertility in male rats at 300 mg/kg/day and in female rats at 150 and 300 mg/kg/day.

6. Pharmaceutical particulars

6.1 List of excipients

Maize starch

Calcium hydrogen phosphate Dihydrate

Microcrystalline cellulose

Povidone

Pregelatinized starch

Hydroxypropyl methyl cellulose

Propylene glycol

FD&C yellow No. 6

Opadry orange OY-3569

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

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

6.4 Special precautions for storage

Store below 25°C and to protect from light.

6.5 Nature and contents of container

The Tablets are packed in ALU/PVC blisters which are inserted into a carton package. Each package contains 4,14,20,1000 tablets.

Not all pack sizes may be marketed. **6.6 Special precautions for disposal and other handling**

No Special requirements.

7. Marketing authorisation holder

Manufacturer and its adress: Unipharm Ltd., "Mevo Carmel" Industrial Park

License Holder and its adress: Unipharm ltd, 1 Shevet Shimon St. P.O. Box 21429, 6121301, Tel Aviv, Israel.

8. Registration numbers:

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