

# Summary of Product Characteristics

## 1 NAME OF THE MEDICINAL PRODUCT

Parlodel 2.5 mg Tablets

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains bromocriptine mesilate equivalent to 2.5 mg of bromocriptine base.

### Excipients with known effect:

Each tablet contains 116.38 mg lactose monohydrate.

For the full list of excipients see section 6.1.

## 3 PHARMACEUTICAL FORM

Tablet.

Whitish, round tablet, flat with bevelled edges, angle-score and "2.5 MG" on upper side. The tablet can be divided into equal halves.

## 4 CLINICAL PARTICULARS

### 4.1 Therapeutic Indications

#### **Prolactinomas:**

Treatment of prolactin-secreting pituitary micro- or macro-adenomas. Parlodel may be used prior to surgery in order to reduce tumour size and to facilitate removal.

#### **Acromegaly:**

Parlodel has been used as an adjunct to surgery and/or radiotherapy, or in management of acromegalic patients with a contraindication to or for whom surgery is not suitable.

#### **Hyperprolactinaemia:**

For the treatment of hyperprolactinaemia:

In male patients with hypogonadism (oligospermia, loss of libido, impotence) and or galactorrhoea.

In female patients with hypogonadism (amenorrhoea, hot flushes, and vaginal dryness), menstrual irregularity, female infertility and or galactorrhoea.

#### **Inhibition of lactation for medical reasons:**

Prevention or suppression of post-partum physiological lactation only where medically indicated (such as in the case of intrapartum loss, neonatal death, HIV infection of the mother, etc.).

Parlodel is not recommended for the routine suppression of lactation or for the relief of symptoms of post-partum pain and engorgement which can be adequately treated with non-pharmacological intervention (such as firm breast support, ice application) and/or simple analgesics.

#### **Parkinson's disease:**

Treatment of the signs and symptoms of idiopathic Parkinson disease; Parlodel is indicated as adjunctive treatment to levodopa (alone or in combination with other antiparkinsonian drugs) in patients with motor complications and those disabled by "on/off" phenomena. Bromocriptine may be useful in patients who are unable to tolerate levodopa's adverse effects or when levodopa is ineffective.

#### **Other:**

There is insufficient evidence of efficacy of Parlodel in the treatment of premenstrual symptoms and benign breast disease. The use of Parlodel in patients with these conditions is therefore not recommended.

## 4.2 Posology and method of administration

### **Posology**

#### *Adults*

A number of disparate conditions are amenable to treatment with Parlodel, and for this reason, the recommended dosage regimens are variable. In most indications, irrespective of the final dosage the optimum response with the minimum of side-effects is best achieved by gradual introduction of Parlodel. The following scheme is suggested.

Initially half a tablet (1.25 mg) at bedtime, increasing after 2 to 3 days to 2.5 mg at bedtime. Dosage may then be increased by half to one tablet at 2 to 3 day intervals, until a dosage of 2.5 mg twice daily is achieved. Further dosage increments, if necessary, should be added in a similar manner.

#### **1. Prolactinomas**

Introduce Parlodel gradually according to the suggested scheme. Dosage may then be increased by 2.5 mg daily at 2 to 3 day intervals as follows: 2.5 mg eight-hourly, 2.5 mg six-hourly, 5mg six-hourly. Patients have responded to up to 30 mg daily.

#### **2. Acromegaly**

Introduce Parlodel gradually, according to the suggested scheme. Dosage may then be increased by 2.5 mg daily at 2 to 3 day intervals as follows: 2.5 mg eight-hourly, 2.5 mg six-hourly, 5 mg six-hourly, increasing to 10 to 20 mg daily, depending on clinical response and side effects.

#### **3. Hyperprolactinaemia**

Women: Introduce Parlodel gradually according to the suggested scheme increasing to 5 to 10 mg per day. Most patients with hyperprolactinaemia have responded to 7.5 mg daily, in divided doses. Treatment is continued until breast secretion has completely ceased, and in association with amenorrhea, until the menstrual cycle normalized.

Men: Introduce Parlodel gradually according to the suggested scheme. Doses up to 15 mg daily have been studied clinically. Treatment is continued until an optimal therapeutic response is achieved.

#### **4. Inhabitation of lactation for medical reasons**

Prevention or suppression of lactation: On the first day of delivery, 1.25 mg ( $\frac{1}{2}$  tablet 2.5 mg) with food in the morning and evening followed by 2.5 mg twice daily for 14 days. Gradual introduction of Parlodel is not necessary in this indication.

To prevent the onset of lactation, treatment should be instituted within a few hours of parturition or abortion, but not before vital signs have stabilised. Slight milk secretion occasionally occurs 2 or 3 days after treatment has been withdrawn. This can be stopped by resuming treatment at the same dosage for a further week.

#### **5. Parkinson's disease**

In order to ensure optimal tolerability, Parlodel should be introduced gradually.

Week 1: 1.25 mg at bedtime.

Week 2: 2.5 mg at bedtime.

Week 3: 2.5 mg twice daily.

Week 4: 2.5 mg three times daily.

Thereafter take three times a day increasing by 2.5 mg every 3 to 14 days depending on the patient's response.

Parlodel should be titrated slowly in order to arrive at the minimal effective dose for each patient. An adequate therapeutic response may be reached within 6 to 8 weeks; if it is not, the daily dose may be further increased by 2.5 mg/day each week. Continue until the optimum dose is reached. The usual therapeutic range for monotherapy or combined therapy is 10-30 mg bromocriptine per day. Daily doses should not exceed 30 mg.

In patients already receiving levodopa the dosage of this drug may be gradually decreased while the dosage of Parlodel is increased until the optimum balance is determined. In certain patients, levodopa may be withdrawn completely.

#### *Paediatric Population*

##### *Children and adolescents (7-17 years)*

The safety and efficacy of bromocriptine in pediatric patients has only been established for prolactinomas and acromegaly indications in patients older than 7 years of age (see sections 4.4 and 5.1).

#### *Elderly*

There is no clinical evidence that Parlodel poses a special risk to older people.

**Method of administration**

Oral.

Parlodel should always be taken during a meal.

**4.3 Contraindications**

Parlodel is contraindicated for patients with

- Hypersensitivity to bromocriptine or to any of the excipients of Parlodel Tablets (*see section 6.1. List of excipients*) or to other ergot alkaloids.
- Uncontrolled hypertension, hypertensive disorders of pregnancy (including eclampsia, pre-eclampsia or pregnancy induced hypertension), hypertension post partum and in the puerperium.

In the suppression of lactation or other non-life-threatening indications in patients with a history of coronary artery disease or other severe cardiovascular conditions, or symptoms/history of severe psychiatric disorders

For long-term treatment: Evidence of cardiac valvulopathy as determined by pre-treatment echocardiography

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

If women with conditions not associated with hyperprolactinaemia are treated with Parlodel, the drug should be given in the lowest effective dose necessary to relieve the symptoms; this is in order to avoid the possibility of suppressing plasma prolactin below normal levels, with a consequent impairment of luteal function.

A few cases of gastrointestinal bleeding and gastric ulcer have been reported. If this occurs, Parlodel should be withdrawn. Patients with a history or evidence of peptic ulceration should be closely monitored when receiving the treatment.

Since, especially during the first days of treatment, hypotensive reactions may occasionally occur and result in reduced alertness, particular care should be exercised when driving a vehicle or operating machinery.

Parlodel has been associated with somnolence, and episodes of sudden sleep onset, particularly in patients with Parkinson's disease. Sudden onset of sleep during daily activities, in some cases without awareness or warning signs, has been reported very rarely. Patients must be informed of this and advised not to drive or operate machines during treatment with bromocriptine.

Patients who have experienced somnolence and/or an episode of sudden sleep onset must not drive or operate machines (*see section 4.7 Effects on ability to drive and use machines*). Furthermore, a reduction of dosage or termination of therapy may be considered.

In patients on Parlodel, particularly on long-term and high-dose treatment, pleural and pericardial effusions, as well as pleural and pulmonary fibrosis and constrictive pericarditis have occasionally been reported. Patients with unexplained pleuropulmonary disorders should be examined thoroughly and discontinuation of Parlodel therapy should be considered

In a few patients treated on Parlodel, particularly on long-term and high dose treatment, retroperitoneal fibrosis has been reported. To ensure recognition of retroperitoneal fibrosis at an early reversible stage it is recommended that its manifestations (e.g. back pain, oedema of the lower limbs, impaired kidney function) should be watched in this category of patients. Parlodel medication should be withdrawn if fibrotic changes in the retroperitoneum are diagnosed or suspected.

**Use in postpartum women**

In rare cases serious adverse events, including hypertension, myocardial infarction, seizures, stroke, or psychic disorders have been reported in postpartum women treated with Parlodel for the inhibition of lactation. In some patients the development of seizures or stroke was preceded by severe headache and/or transient visual disturbances. Blood pressure should be carefully monitored, especially during the first days of therapy. If hypertension, suggestive chest pain, severe, progressive, or unremitting headache (with or without visual disturbances), or evidence of central nervous system (CNS) toxicity develop, the administration of Parlodel should be discontinued and the patient should be evaluated promptly.

Particular caution is required in patients who have recently been treated or are on concomitant therapy with drugs that can alter blood pressure, e.g. vasoconstrictors such as sympathomimetics or ergot alkaloids including ergometrine or methylergometrine. Although there is no conclusive evidence of an interaction between Parlodel and these drugs, their concomitant use in the puerperium is not recommended.

### **Use in prolactin-secreting adenoma patients**

Since patients with macro-adenomas of the pituitary might have accompanying hypopituitarism due to compression or destruction of pituitary tissue, one should make a complete evaluation of pituitary functions and institute appropriate substitution therapy prior to administration of Parlodel. In patients with secondary adrenal insufficiency, substitution with corticosteroids is essential.

The evolution of tumour size in patients with pituitary macro-adenomas should be carefully monitored and, if evidence of tumour expansion develops, surgical procedures must be considered.

If, in adenoma patients, pregnancy occurs after the administration of Parlodel, careful observation is mandatory. Prolactin-secreting adenomas may expand during pregnancy. In these patients, treatment with Parlodel often results in tumour shrinkage and rapid improvement of the visual field defects. In severe cases, compression of the optic or other cranial nerves may necessitate emergency pituitary surgery.

Visual field impairment is a known complication of macroprolactinoma. Effective treatment with Parlodel leads to a reduction in hyperprolactinaemia and often to a resolution of the visual impairment. In some patients, however, a secondary deterioration of visual fields may subsequently develop despite normalized prolactin levels and tumour shrinkage, which may result from traction on the optic chiasm which is pulled down into the now partially empty sella.

In these cases the visual field defect may improve on reduction of bromocriptine dosage while there is some elevation of prolactin and some tumour re-expansion. Monitoring of visual fields in patients with macroprolactinoma is therefore recommended for an early recognition of secondary field loss due to chiasmal herniation and adaptation of the drug dosage.

In some patients with prolactin-secreting adenomas treated with Parlodel, cerebrospinal fluid rhinorrhea has been observed. The data available suggest that this may result from shrinkage of invasive tumours.

### **Impulse control disorders**

Patients should be regularly monitored for the development of impulse control disorders. Patients and carers should be made aware that behavioural symptoms of impulse control disorders including pathological gambling, increased libido, hypersexuality, compulsive spending or buying, binge eating and compulsive eating can occur in patients treated with dopamine agonists including Parlodel. Dose reduction/tapered discontinuation should be considered if such symptoms develop.

### **Use for Parkinson's disease**

When dose reduction or discontinuation of this drug is necessary, the dose should be gradually reduced. Rapid dose reduction or discontinuation may cause a neuroleptic malignant syndrome. In addition, rapid dose reduction or discontinuation of dopamine receptor agonists may cause drug withdrawal syndrome (characterized by apathy, anxiety, depression, fatigue, sweating, pain, etc.).

#### *Children and adolescents (aged 7 to 17)*

The safety and effectiveness of bromocriptine in paediatric patients has only been established for the prolactinomas and acromegaly indications, in patients aged 7 or above. Only isolated data are available for bromocriptine use in paediatric patients under the age of 7 years. However, other reported clinical experiences, including post-marketing reporting of adverse events, have not identified differences in tolerability between adults and adolescents or children. Even though no variation in adverse reaction profile in paediatric patients taking Parlodel has been observed, greater sensitivity in some younger individuals cannot be categorically ruled out, and it is recommended that dose titration in paediatric patients should be cautious.

Prescribing of Parlodel in children and adolescents should be limited to Paediatric Endocrinologists.

#### *Elderly*

Clinical studies for Parlodel did not include sufficient numbers of subjects aged 65 and above to determine whether older people respond differently from younger subjects. However, other reported clinical experiences, including post-marketing reporting of adverse events, have identified no differences in response or tolerability between older people and younger patients.

Even though no variation in efficacy or adverse reaction profile in older people patients taking Parlodel has been observed, greater sensitivity in some older individuals cannot be categorically ruled out. In general, dose selection for an older patient should be cautious, starting at the lower end of the dose range, reflecting the greater frequency of decreased hepatic, renal or cardiac function, and of concomitant disease or other drug therapy in this population.

Patients with rare hereditary problems of galactose intolerance, the severe lactase deficiency or glucose-galactose malabsorption should not take this medicine.

This medicine contains less than 1 mmol sodium (23 mg) per tablet, that is to say essentially "sodium free".

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

Bromocriptine is both a substrate and an inhibitor of CYP3A4 (*see section 5.2 Pharmacokinetic properties*). Caution should therefore be used when co-administering drugs which are strong inhibitors and/or substrates of this enzyme (azole antimycotics, HIV protease inhibitors). The concomitant use of macrolide antibiotics such as erythromycin or josamycin, was shown to increase the plasma levels of bromocriptine. The concomitant treatment of acromegalic patients with bromocriptine and octreotide led to increased plasma levels of bromocriptine. Since Parlodel exerts its therapeutic effect by stimulating central dopamine receptors, dopamine antagonists such as antipsychotics (phenothiazines, butyrophenones and thioxanthenes), but also metoclopramide and domperidone may reduce its activity.

The tolerability to Parlodel may be reduced by alcohol.

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

##### **Pregnancy**

In patients wishing to conceive, Parlodel, like all other drugs, should be discontinued when pregnancy is confirmed, unless there is a medical reason for continuing therapy. No increased incidence of abortion has been observed following withdrawal of Parlodel at this point. Clinical experience indicated that Parlodel, administered during pregnancy, does not adversely affect its course or outcome.

If pregnancy occurs in the presence of a pituitary adenoma and Parlodel treatment has been stopped, close supervision throughout pregnancy is essential. In patients who show symptoms of a pronounced enlargement of a prolactinoma, e.g. headache or visual field deterioration, Parlodel treatment may be re-instituted or surgery may be appropriate.

##### **Breast-feeding**

Since Parlodel inhibits lactation, it should not be administered to mothers who elect to breast-feed.

##### **Fertility**

Fertility may be restored by treatment with Parlodel. Women of childbearing age who do not wish to conceive should therefore be advised to practice a reliable method of contraception.

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

Since, especially during the first days of treatment, hypotensive reactions may occasionally occur and result in reduced alertness particular care should be exercised when driving vehicles or operating machinery.

Patients being treated with Parlodel and presenting with somnolence and/or sudden sleep episodes must be advised not to drive or engage in activities where impaired alertness may put themselves or others at risk of serious injury or death (e.g. operating machines) until such recurrent episodes and somnolence have resolved (*see 4.4 Special warnings and special precautions for use*).

#### **4.8 Undesirable effects**

Adverse reactions (Table 1) are ranked under heading of frequency, the most frequent first, using the following convention:  
very common ( $\geq 1/10$ );  
common ( $\geq 1/100$ ,  $< 1/10$ );  
uncommon ( $\geq 1/1,000$ ,  $< 1/100$ );

rare ( $\geq 1/10,000$ ,  $< 1/1,000$ );  
 very rare ( $< 1/10,000$ );  
 not known (cannot be estimated from the available data).

## **Table1 Adverse drug reactions**

### **Psychiatric disorders**

Uncommon: Confusion, psychomotor agitation, hallucinations

Rare: Psychotic disorders, insomnia

Very rare: Libido increased, hypersexuality, pathological gambling, compulsive spending or buying, binge eating, compulsive eating

### **Nervous system disorders**

Common: Headache, drowsiness, dizziness

Uncommon: Dyskinesia

Rare: Somnolence, paresthesia

Very rare: Excess daytime somnolence, sudden onset of sleep

### **Eye disorders**

Rare: Visual disturbance, vision blurred

### **Ear and Labyrinth disorders**

Rare: Tinnitus

### **Cardiac disorders**

Rare: Pericardial effusion, constrictive pericarditis, tachycardia, bradycardia, arrhythmia

Very rare: Cardiac valvulopathy (including regurgitation) and related disorders (pericarditis and pericardial effusion), cardiac valve fibrosis

### **Vascular disorders**

Uncommon: Hypotension, orthostatic hypotension (very rarely leading to syncope)

Very rare: Reversible pallor of fingers and toes induced by cold (especially in patients with history of Raynaud's phenomenon)

### **Respiratory, thoracic and mediastinal disorders**

Common: Nasal congestion

Rare: Pleural effusion, Pleural fibrosis, Pleurisy, pulmonary fibrosis, dyspnoea

### **Gastrointestinal disorders**

Common: Nausea, constipation, vomiting

Uncommon: Dry mouth

Rare: Diarrhoea, abdominal pain, retroperitoneal fibrosis, gastrointestinal ulcer, gastrointestinal haemorrhage

### **Skin and subcutaneous tissue disorders**

Uncommon: Allergic skin reactions, hair loss

### **Musculoskeletal and connective tissue disorders**

Uncommon: Leg cramps

### **General disorders and administration site conditions**

Uncommon: Fatigue

Rare: Peripheral oedema

Very rare: A syndrome resembling Neuroleptic Malignant Syndrome on abrupt withdrawal of Parlodel

Not known: Drug withdrawal syndrome\* including apathy, anxiety, depression, fatigue, sweating, pain, etc

\*When any abnormalities are observed, appropriate measures should be taken such as resuming administration or returning the dose to the level prior to reduction.

The use of Parlodel for the inhibition of physiological lactation post partum has been associated with the rare occurrence of hypertension, myocardial infarction, seizures, stroke or psychic disorders (*see section 4.4 Special warnings and special precautions for use*).

### **Impulse control disorders**

Pathological gambling, increased libido, hypersexuality, compulsive spending or buying, binge eating and compulsive eating can occur in patients treated with dopamine agonists including Parlodel (*see section 4.4 'Special warnings and precautions for use'*).

### **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 via HPRC Pharmacovigilance. website: [www.hpra.ie](http://www.hpra.ie).

## **4.9 Overdose**

### **Signs and symptoms**

All patients who have taken an overdose of Parlodel alone have survived; the maximum single dose so far ingested is 325 mg. The observed symptoms were nausea, vomiting, dizziness, hypotension, postural hypotension, tachycardia, drowsiness, somnolence, lethargy and hallucinations.

There have been isolated reports of children who accidentally ingested Parlodel. Vomiting, somnolence and fever were reported as adverse events. Patients recovered either spontaneously within a few hours or after appropriate management.

### **Overdose management**

In the case of overdose, administration of activated charcoal is recommended and in the case of very recent oral intake, gastric lavage may be considered.

The management of acute intoxication is symptomatic. Metoclopramide may be indicated for the treatment of emesis or hallucinations.

## **5 PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

**Pharmacotherapeutic group:** Dopamine agonists (ATC code N04B C01),  
Prolactin inhibitors (ATC code G02C B01).

Parlodel, active ingredient bromocriptine, is an inhibitor of prolactin secretion and a stimulator of dopamine receptors. The areas of application of Parlodel are divided into endocrinological and neurological indications. The pharmacological particulars are discussed under each indication.

The safety and effectiveness of bromocriptine in paediatric patients has only been established for the prolactinomas and acromegaly indications, in patients aged 7 years or above (*see sections 4.2 and 4.4*).

#### *Children and adolescents (7-17 years)*

The use of bromocriptine in the treatment of prolactinomas and acromegaly in children is described in published case studies and retrospective cohort studies. In the age group of under 7 years, however, only a few isolated case reports are available. Bromocriptine is described as an effective non-invasive treatment of prolactinomas and acromegaly in children and adolescents. In acromegaly, bromocriptine treatment resulted in an inhibition of growth hormone (IGF-1 concentration) release. In hyperprolactinaemia, bromocriptine was effective in inhibiting serum prolactin levels, allowing normal growth and puberty to be achieved. The used dosage of bromocriptine in children and adolescents ranged from 1.25 to 20 mg per day. It will be recommended that the dose titration in children be initiated with caution. Safety in the group adolescents appears to be comparable to the adult population in these indications. In younger patients, especially in the age group of under 7 years, however, the data are insufficient to assess the safety and determine effectiveness.

**Endocrinological Properties**

Parlodel inhibits the secretion of the anterior pituitary hormone prolactin without affecting normal levels of other pituitary hormones. However, Parlodel is capable of reducing elevated levels of growth hormone (GH) in patients with acromegaly. These effects are due to stimulation of dopamine receptors.

In the puerperium prolactin is necessary for the initiation and maintenance of puerperal lactation. At other times increased prolactin secretion gives rise to pathological lactation (galactorrhoea) and/or disorders of ovulation and menstruation.

As a specific inhibitor of prolactin secretion, Parlodel can be used to prevent or suppress physiological lactation as well as to treat prolactin-induced pathological states. In amenorrhoea and/or anovulation (with or without galactorrhoea), Parlodel can be used to restore menstrual cycles and ovulation.

The customary measures taken during lactation suppression, such as the restriction of fluid intake, are not necessary with Parlodel. In addition, Parlodel does not impair the puerperal involution of the uterus and does not increase the risk of thrombo-embolism.

Parlodel has been shown to arrest the growth or to reduce the size of prolactin-secreting pituitary adenomas (prolactinomas).

In acromegalic patients - apart from lowering the plasma levels of growth hormone and prolactin - Parlodel has a beneficial effect on clinical symptoms and on glucose tolerance.

Parlodel improves the clinical symptoms of the polycystic ovary syndrome by restoring a normal pattern of LH secretion.

**Neurological properties**

Because of its dopaminergic activity, Parlodel, in doses usually higher than those for endocrinological indications, is effective in the treatment of Parkinson's disease, which is characterised by a specific nigrostriatal dopamine deficiency. The stimulation of dopamine receptors by Parlodel can in this condition restore the neurochemical balance within the striatum.

Clinically, Parlodel improves tremor, rigidity, bradykinesia and other Parkinsonian symptoms at all stages of the disease. Usually the therapeutic effect lasts over years (so far, good results have been reported in patients treated up to eight years). Parlodel can be given either along or - at early as well as advanced stages - combined with other antiparkinsonian drugs.

Combination with levodopa treatment results in enhanced antiparkinsonian effects, often making possible a reduction of the levodopa dose. Parlodel offers particular benefit to patients on levodopa treatment exhibiting a deteriorating therapeutic response or complications such as abnormal involuntary movements (choreo-athetoid dyskinesia and/or painful dystonia), end-of-dose failure, and "on/off" phenomenon.

Parlodel improves the depressive symptomatology often observed in Parkinsonians. This is due to its inherent antidepressant properties as substantiated by controlled studies in non-Parkinsonian patients with endogenous or psychogenic depression.

**5.2 Pharmacokinetic properties****Absorption**

Following oral administration, Parlodel is well absorbed. When using in healthy volunteers, the absorption half-life is 0.2 - 0.5 h, and peak plasma levels of bromocriptine are reached within 1 - 3 hours. An oral dose of 5mg of bromocriptine results in a C<sub>max</sub> of 0.465 ng/mL.

**Distribution**

The prolactin-lowering effect sets in within 1 - 2 h after ingestion, reaches its maximum, i.e. a reduction of prolactin in the plasma by more than 80%, within 5 - 10 h and remains close to maximum for 8 - 12 hours.

**Elimination**

The elimination of the parent drug from plasma is biphasic, with a terminal half-life of about 15 h (range 8 - 20 h). Parent drug and metabolites are almost completely excreted via the liver, with only 6% being eliminated via the kidney. Plasma protein binding amounts to 96%.

**Biotransformation**

Bromocriptine undergoes extensive first-pass biotransformation in the liver, reflected by complex metabolite profiles and by almost complete absence of parent drug in urine and faeces. It shows a high affinity for CYP3A and hydroxylations at the proline ring of the cyclopeptide moiety constitute a main metabolic pathway. Inhibitors and/or potent substrates for CYP3A4 might therefore be expected to inhibit and the clearance of bromocriptine and lead to increased levels. Bromocriptine is also a



potent inhibitor of CYP3A4 with a calculated IC50 value of 1.6 µM. However, given the low therapeutic concentrations of free Bromocriptine in patients, a significant alteration of metabolism of a second drug whose clearance is mediated by CYP3A4 should not be expected.

### **Characteristics in patients**

There is no evidence that the pharmacokinetic properties and tolerability of Parlodel are directly affected by advanced age. However, in patients with impaired hepatic function, the speed of elimination may be retarded and plasma levels may increase, requiring dose adjustment.

### **5.3 Preclinical safety data**

Pre-clinical data for Parlodel (bromocriptine) reveal no special hazard for humans based on conventional studies of safety pharmacology, single and repeated dose toxicity, genotoxicity, mutagenicity, carcinogenic potential, or toxicity to reproduction.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Lactose Monohydrate  
Maize Starch  
Disodium Edetate  
Maleic Acid  
Colloidal Anhydrous Silica  
Magnesium Stearate

### **6.2 Incompatibilities**

Not applicable.

### **6.3 Shelf life**

24months

### **6.4 Special precautions for storage**

Do not store above 25°C. Keep blister in the outer carton.

### **6.5 Nature and contents of container**

The tablets are packaged in in white opaque PVC/PVDC/Al blister strips containing 30 tablets.

### **6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product**

No special requirements.

## **7 MARKETING AUTHORISATION HOLDER**

Mylan IRE Healthcare Limited  
Unit 35/36  
Grange Parade  
Baldoyle Industrial Estate  
Dublin 13  
Ireland

**8 MARKETING AUTHORISATION NUMBER**

PA2010/042/001

**9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation: 04 May 1976

Date of last renewal: 30 June 2011

**10 DATE OF REVISION OF THE TEXT**

May 2022