SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Lem Plus Powders
Aspar Hot Lemon Powders
Paracetamol 650mg Powder for Oral Solution

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each sachet contains: Paracetamol 650mg

For the full list of Excipients
See section 6.1

3 PHARMACEUTICAL FORM

Powder for oral solution in sachet.
A yellow coloured, free flowing powder with characteristic Lemon Aroma (odour).

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

For the symptomatic relief of influenza, feverishness, chills and feverish colds, including aches and pains, headache and sore throat pain.

4.2 Posology and method of administration

Adults, the elderly and children 16 years and over: One sachet every four to six hours as required.
Do not exceed 4 sachets in 24 hours
Dose not to be repeated more frequently than 4 – 6 hourly intervals.
Dose should not be continued for more than 3 days without consulting a doctor.

Children 12-15 years: One sachet given three or four times daily as required.

Not recommended for children under 12 years.

Children should not be given Paracetamol Sachets for more than 3 days without consulting a doctor.

These doses should not be repeated more frequently than every 4-6 hours nor should more than 4 doses be given in any 24 hour period.

4.3 Contraindications

Known hypersensitivity to paracetamol and/or any other of the constituents.

4.4 Special warnings and precautions for use

Care is advised in the administration of paracetamol to patients with severe renal or severe hepatic impairment. The hazard of overdose is greater in those with non-cirrhotic alcoholic liver disease.

Cases of high anion gap metabolic acidosis (HAGMA) due to pyroglutamic acidosis have been reported in patients with severe illness such as severe renal impairment and sepsis, or in patients with malnutrition and other sources of glutathione deficiency (e.g., chronic alcoholism) who were treated with paracetamol at therapeutic dose for a prolonged period or a combination of paracetamol and flucloxacillin. If HAGMA due to pyroglutamic acidosis is suspected, prompt discontinuation of paracetamol and close monitoring is recommended. The measurement of urinary 5-oxoproline may be useful to identify pyroglutamic acidosis as underlying cause of HAGMA in patients with multiple risk factors.

Patients with rare hereditary problems of fructose intolerance, glucose-galactose malabsorption or sucrose-isomaltase insufficiency should not take this medicine. Contains 2.721 gm sucrose per dose. This should be taken into account by patients with diabetes.

Patients should be advised not to take other paracetamol-containing or any other cold or flu products concurrently.

If symptoms persist consult your doctor.

Keep medicines out of the sight and reach of children.

Pack Label:
Contains Paracetamol.

Do not take anything else containing paracetamol while taking this medicine and talk to a doctor at once if you take too much of this medicine, even if you feel well.

Do not take more medicine than the label tells you to. If you do not get better, talk to your doctor.

Do not take if you are sensitive to paracetamol or to any of the other ingredients.

Patient Information Leaflet:
Talk to a doctor at once if you take too much of this medicine even if you feel well because too much paracetamol can cause delayed, serious liver damage.

4.5 Interaction with other medicinal products and other forms of interaction

Paracetamol:
Alcohol and hepatotoxic medications reduce the capacity of the liver to metabolise Paracetamol. The anticoagulant effect of warfarin and other coumarins may be enhanced by prolonged regular daily use of Paracetamol with increased risk of bleeding, occasional doses have no significant effect. Colestyramine reduces absorption of Paracetamol. Metoclopramide and domperidone accelerate absorption of Paracetamol. Plasma levels of chlorampenicol may increase with concurrent administration of Paracetamol.

Concurrent use of Paracetamol with NSAID may increase the risk of adverse renal effects. Prolonged concurrent use of Paracetamol and Aspirin or other salicylate may increase the risk of renal damage (such as analgesic nephropathy and renal papillary necrosis).

Effervescent preparations of Paracetamol which contain a high sodium concentration may increase the risk of cedema and/or hypematraemia when administered concurrently with adrenocorticoids, anabolic steroids, androgens or ACTH. Oral tetracyclines may form non-absorbable complexes with the buffering agents present in effervescent preparations, these medications should be taken 1-2 hours apart.

Caution should be taken when paracetamol is used concomitantly with flucloxacillin as concurrent intake has been associated with high anion gap metabolic acidosis due to pyroglutamic acidosis, especially in patients with risk factors (see section 4.4).

Interactions with laboratory tests:
Paracetamol may interfere with a number of test results; blood glucose, urate, bilirubin, lacate dehydrogenase and transaminase concentrations, urine 5-hydroxyindoleacetic acid determination, prothrombin time and pancreatic function using benitromide.

4.6 Fertility, pregnancy and lactation

Paracetamol:

Paracetamol crosses the placenta.

A large amount of data on pregnant women indicate neither malformative, nor feto/neonatal toxicity. Epidemiological studies on neurodevelopment in children exposed to paracetamol in utero show inconclusive results. If clinically needed, paracetamol can be used during pregnancy however it should be used at the lowest effective dose for the shortest possible time and at the lowest possible frequency.

Paracetamol is excreted in breast milk but there is no evidence that this is clinically significant

4.7 Effects on ability to drive and use machines

None stated.

4.8 Undesirable effects

Adverse events of paracetamol from historical clinical trial data are both infrequent and from small patient exposure. Accordingly, events reported from extensive post-marketing experience at therapeutic/labelled dose and considered attributable are tabulated below by system class. Due to limited clinical trial data, the frequency of these adverse events is not

known (cannot be estimated from available data), but post-marketing experience indicates that adverse reactions to paracetamol are rare and serious reactions are very rare.

Post marketing data

Body System	**Undesirable effect**
Blood and lymphatic system disorders	Thrombocytopenia Agranulocytosis
Immune system disorders	Anaphylaxis Cutaneous hypersensitivity reactions including skin rashes, angioedema, Stevens Johnson Syndrome/Toxic Epidermal Necrolysis
Respiratory, thoracic and mediastinal disorders	Bronchospasm*
Hepatobiliary disorders	Hepatic dysfunction
Skin and subcutaneous tissue disorders	Very rare cases of serious skin reactions have been reported.

*There have been cases of bronchospasm with paracetamol, but these are more likely in asthmatics sensitive to aspirin or other NSAIDs.

Metabolism and nutrition disorders

High anion gap metabolic acidosis with frequency "Not known" (cannot be estimated from the available data)

Description of selected adverse reactions
High anion gap metabolic acidosis

Cases of high anion gap metabolic acidosis due to pyroglutamic acidosis have been observed in patients with risk factors using paracetamol (see section 4.4). Pyroglutamic acidosis may occur as a consequence of low glutathione levels in these patients.

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 the Yellow Card Scheme at www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App store.

4.9 Overdose

Liver damage is possible in adults who have taken 10g or more of paracetamol. Ingestion of 5g or more of paracetamol may lead to liver damage if the patient has risk factors (see below).

Risk factors

If the patient:

A. is on long term treatment with carbamazepine, phenobarbital, phenytoin, primidone, rifampicin, St John's Wort or other drugs that induce liver enzymes.

Or

B. regularly consumes ethanol in excess of recommended amounts.

Or

C. Is likely to be glutathione deplete e.g. eating disorders, cystic fibrosis, HIV infection, starvation, cachexia.

Symptoms

Symptoms of paracetamol overdosage in the first 24 hours are pallor, nausea, vomiting, anorexia and abdominal pain. Liver damage may become apparent 12 to 48 hours after ingestion. Abnormalities of glucose metabolism and metabolic acidosis may occur. In severe poisoning, hepatic failure may progress to encephalopathy, haemorrhage, hypoglycaemia, cerebral oedema, and death. Acute renal failure with acute tubular necrosis, strongly suggested by loin pain, haematuria and proteinuria, may develop even in the absence of severe liver damage. Cardiac arrhythmias and pancreatitis have been reported.

Management

Immediate treatment is essential in the management of paracetamol overdose. Despite a lack of significant early symptoms, patients should be referred to hospital urgently for immediate medical attention. Symptoms may be limited to nausea or vomiting and may not reflect the severity of overdose or the risk of organ damage. Management should be in accordance with established treatment guidelines, see BNF overdose section.

Treatment with activated charcoal should be considered if the overdose has been taken within 1 hour. Plasma paracetamol concentration should be measured at 4 hours or later after ingestion (earlier concentrations are unreliable). Treatment with N-acetylcysteine may be used up to 24 hours after ingestion of paracetamol; however, the maximum protective effect is obtained up to 8 hours post-ingestion. The effectiveness of the antidote declines sharply after this time. If required the patient should be given intravenous N-acetylcysteine, in line with the established dosage schedule. If vomiting is not a problem, oral methionine may be a suitable alternative for remote areas, outside hospital. Management of patients who present with serious hepatic dysfunction beyond 24h from ingestion should be discussed with the NPIS or a liver unit.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Other analgesics and antipyretics.

ATC Code: N02BE01

Paracetamol is an effective analgesic and antipyretic agent but has only weak anti-inflammatory properties. Its mechanism of action is not fully understood. It has been suggested that it may act predominantly by inhibiting prostaglandin synthesis in the CNS and to a lesser extent through a peripheral action by blocking pain-impulse generation. The peripheral action may also be due to inhibition of prostaglandin synthesis or to inhibition of the synthesis or actions of other substances that sensitise pain receptors to mechanical or

chemical stimulation. Paracetamol probably produces an antipyretic action by a central effect on the hypothalamic heat-regulating centre to produce peripheral vasodilation resulting in increased blood flow through the skin, sweating and heat loss. The central action probably involves inhibition of prostaglandin synthesis in the hypothalamus. The drug has no effect on the cardiovascular and respiratory systems, and unlike salicylates it does not cause gastric irritation or bleeding.

5.2 Pharmacokinetic properties

Paracetamol is readily absorbed from the gastrointestinal tract with peak plasma concentrations occurring about 30 minutes to 2 hours after ingestion. It is metabolised in the liver (90-95%) and excreted in the urine mainly as glucuronide and sulphate conjugates. Less than 5% is excreted as unchanged paracetamol. The elimination half-life varies from about 1 to 4 hours. Plasma protein binding is negliable at therapeutic concentrations but increases with increasing concentrations. A minor hydroxylated metabolite (n-acetyl-p-benzoquinoneimine) which is usually produced in very small amounts by mixed function oxidases in the liver and which is usually detoxified by conjugation with liver glutathione may accumulate following paracetamol overdosage and cause liver damage. The time to peak concentrations of paracetamol is 0.5 to 2 hours, the time to peak effect 1 to 3 hours and the duration of action 3 to 4 hours.

5.3 Preclinical safety data

Conventional studies using the currently accepted standards for the evaluation of toxicity to reproduction and development are not available.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Ascorbic Acid BP
Sucrose BP
Sodium Citrate BP
Tartaric Acid BP
Citric Acid BP
Starch BP
Spray Dried Lemon Juice
Lemon Aroma
Sodium Cyclamate
Colour E100

6.2 Incompatibilities

None stated.

6.3 Shelf life

3 years from the date of manufacture.

6.4 Special precautions for storage

Store in a dry place below 25°C.
Keep out of the reach of children

6.5 Nature and contents of container

5 or 10 Sachets.

6.6 Special precautions for disposal

7 MARKETING AUTHORISATION HOLDER

Aspar Pharmaceuticals Ltd
Albany House,
Acrewood way,
St Albans,
AL4 0JY,
United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)

PL 08977/0038

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

30 December 2005

10 DATE OF REVISION OF THE TEXT

01/04/2025