1.3.1 Summary of Product Characteristics (SmPC)

1. Name of the medicinal product

Cyanocobalamin Injection 2ml/1mg

2. Qualitative and quantitative composition

Cyanocobalamin 1.0mg

3. Pharmaceutical form

Solution for injection.

4. Clinical particulars

4.1 Therapeutic indications

Addisonian pernicious anaemia. Prophylaxis and treatment of other macrocytic anaemias associated with vitamin B12 deficiency. Schilling test.

Not indicated for treatment of toxic amblyopias - use Cyanocobalamin.

4.2 Posology and method of administration

Route of administration: intramuscular.

Adults and Children

Addisonian pernicious anaemia and other macrocytic anaemias without neurological involvement:

Initially: 250 mcg to 1000mcg intramuscularly on alternate days for one to two weeks, then 250mcg weekly until the blood count is normal.

Maintenance: 1000mcg monthly.

Addisonian pernicious anaemia and other macrocytic anaemias with neurological complications:

Initially: 1000mcg intramuscularly on alternate days as long as improvement is occurring.

Maintenance: 1000mcg monthly.

Prophylaxis of macrocytic anaemia associated with vitamin B12 deficiency resulting from gastrectomy, some malabsorption syndromes and strict vegetarianism:

250mcg - 1000mcg monthly.

Schilling Test:

An intramuscular injection of 1000mcg Cyanocobalamin is an essential part of this test.

4.3 Contraindications
Hypersensitivity to Cyanocobalamin or any other constituents

Cytomen should not be used for the treatment of megaloblasticanaemia of pregnancy unless vitamin B12 deficiency has been demonstrated.

Not indicated for treatment of toxic amblyopias - use Cyanocobalamin.

4.4 Special warnings and precautions for use
Precautions:

The dosage schemes given above are usually satisfactory, but regular examination of the blood is advisable. If megaloblasticanaemia fails to respond to Cyanocobalamin, folate metabolism should be investigated. Doses in excess of 10mcg daily may produce an incomplete haematological response in patients with folate deficiency. Indiscriminate administration may mask the true diagnosis. The haematological and neurological state should be monitored regularly to ensure adequacy of therapy. Cardiac arrhythmias secondary to hypokalaemia during initial therapy have been reported. Plasma potassium should therefore be monitored during this period. Platelet count should be monitored during the first weeks of use in megaloblasticanaemia due to the possible occurrence of reactive thrombocytosis.

4.5 Interaction with other medicinal products and other forms of interaction
Chloramphenicol-treated patients may respond poorly to Cyanocobalamin. Serum concentrations of Cyanocobalamin may be lowered by oral contraceptives but this interaction is unlikely to have clinical significance.

Antimetabolites and most antibiotics invalidate vitamin B12 assays by microbiological techniques.

4.6 Pregnancy and lactation
Cyanocobalamin should not be used for the treatment of megaloblasticanaemia of pregnancy unless vitamin B12 deficiency has been demonstrated. Cyanocobalamin is secreted into breast milk but this is unlikely to harm the infant, and may be beneficial if the mother and infant are vitamin B12 deficient.

4.7 Effects on ability to drive and use machines
None.

4.8 Undesirable effects
Hypersensitivity reactions have been reported including skin reactions (e.g. rash, itching) and exceptionally anaphylaxis. Other symptoms reported include fever, chills, hot flushing, dizziness, malaise, nausea, acneiform and bullous eruptions, tremor and injection site reactions including injection site pain, injection site induration and injection site necrosis. Reactive thrombocytosis can occur during the first weeks of use in megaloblasticanaemia.

4.9 Overdose
Treatment is unlikely to be needed in cases of overdosage.

5. Pharmacological properties
5.1 Pharmacodynamic properties
Cyanocobalamin is a form of vitamin B12.

5.2 Pharmacokinetic properties
Cobalamins are absorbed from the gastro-intestinal tract, but may be irregularly absorbed when given in large therapeutic doses. Absorption is impaired in patients with an absence of intrinsic factor, with a malabsorption syndrome or with a disease or abnormality of the gut, or after gastrectomy.

After injection of Cyanocobalamin a large proportion is excreted in the urine within 24 hours; the body retains only 55% of a100-microgram dose and 15% of a 1000-microgram dose. Vitamin B12 is extensively bound to specific plasma proteins called transcobalamins; transcobalamin II appears to be involved in the rapid transport of the cobalamins to tissues. Vitamin B12 is stored in the liver, excreted in the bile, and undergoes extensive enterohepatic recycling; part of an administered dose is excreted in the urine, most of it in the first 8 hours; urinary excretion, however, accounts for only a small fraction in the reduction of total body stores acquired by dietary means. Vitamin B12 diffuses across the placenta and also appears in breast milk.

5.3 Preclinical safety data
None stated.

6. Pharmaceutical particulars
6.1 List of excipients
Sodium chloride

Water for injections

6.2 Incompatibilities
None.

6.3 Shelf life
36 months.

6.4 Special precautions for storage
Protect from light. Do not store above 30°C

6.5 Nature and contents of container
1ml clear, one-point cut (OPC) colourless glass Type 1 PhEur ampoules packed in cartons of 5 ampoules

6.6 Special precautions for disposal and other handling
None stated.