Peginterferon alpha-2a (Pegasys®) for myeloproliferative neoplasms

Indication:

Patients with Essential Thrombocythaemia, Polycythaemia Vera, Myelofibrosis intolerant of conventional interferon alpha-2b (IntronA®) and where compliance may be a problem.

Pegasys® is not licensed for this indication.

Treatment intent:

To normalise blood count

Regimen details:

Pegylated interferon alpha–2a (Pegasys®) 45 - 180 mcg SC Once per week

Pegasys® is available as the following pre-filled pens:

<table>
<thead>
<tr>
<th>Pen size</th>
<th>Doses deliverable by the pre-filled pen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pegasys 135mcg</td>
<td>45mcg, 135mcg</td>
</tr>
<tr>
<td>Pegasys 180mcg</td>
<td>90mcg, 180mcg</td>
</tr>
</tbody>
</table>

Each pen is intended for single use only and must then be discarded. Pens must be stored in a refrigerator (2°C – 8°C). Do not freeze.

Once a patient is stabilised on therapy, do not change to another brand of peginterferon-alpha.

Administration:

SC injection

Premedication:

Paracetamol 1000mg 30 minutes prior dose, where required

Frequency:

Continuous

Extravasation:

Not applicable

Anti- emetics:

Not usually required

Supportive medication:

Allopurinol 100-300 mg OD (dependent on renal function) at initiation until platelets <400 x 10⁹/L and PCV < 0.45 may be needed

Regular investigations:

FBC Monthly initially, then at the discretion of the prescriber

Renal profile Baseline.
Recalculate GFR using the Cockcroft & Gault equation if >25% change in serum creatinine from baseline

Thyroid Function Tests Every 6 months

Dose Modifications

Haematological Toxicity  Titrate dose against desired effect and any undesirable pancytopenias
## Renal Impairment

<table>
<thead>
<tr>
<th>Creatinine Clearance</th>
<th>Dose modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 50 ml/min</td>
<td>No dose modification necessary</td>
</tr>
<tr>
<td>10 – 20 ml/min</td>
<td>No dose modification necessary</td>
</tr>
<tr>
<td>&lt; 10 ml/min</td>
<td>Use with great caution</td>
</tr>
</tbody>
</table>

## Hepatic Impairment

- No adjustment required

## Toxicities:

Care should be taken in the elderly who may be more susceptible to toxicity.

The most common adverse effect is a **flu-like syndrome** consisting of fever, chills, fatigue, myalgias, anorexia, and headache. These effects are transient, dose-related, and reversible within 72 hours of cessation of treatment. Paracetamol 1000 mg given 30 minutes before administration of peginterferon and every 6 hours after alleviates the flu-like symptoms.

CNS effects, particularly depression, suicidal ideation, and attempted suicide have been observed in some patients during peginterferon therapy, and even after treatment discontinuation mainly during the 6-month follow-up period. Patients should be closely monitored for any signs or symptoms of psychiatric disorders. If psychiatric symptoms persist or worsen, or suicidal ideation is identified, it is recommended that treatment with peginterferon be discontinued, and the patient followed, with psychiatric intervention as appropriate.

## Drug interactions:

- **Interferon alfa** inhibits the metabolism of **theophylline**, monitor theophylline levels

## References:

