Liposomal Daunorubicin for Kaposi’s Sarcoma

Indication: Advanced HIV related Kaposi’s Sarcoma

Regimen details: Liposomal Daunorubicin 40mg/m^2 IV D1 (q14 days)

In combination with Highly active antiretroviral therapy (HAART), which is managed by the HIV physicians.

Administration: Dilute in 250mls 5% Dextrose over 60 minutes

Liposomal Daunorubicin is incompatible with Sodium Chloride. The IV line should be flushed before and after the infusion with 5% Dextrose

In those patients who experience an infusion reaction, stop temporarily the infusion until symptoms have cleared with or without further therapy (antihistamines, corticosteroids, adrenaline) and resume treatment, at a slower rate, as follows:
5% of the total dose should be infused slowly over the first 15 minutes
If tolerated, without reaction: may double the infusion rate for the next 15 minutes
If tolerated: complete the infusion over the next hour for a total infusion time of 90 minutes

Frequency: Every 14 days, up to 10 cycles

Extravasation: Non-vesicant

Anti- emetics: Low emetogenic
Follow Local Anti-emetic Policy

Supportive medication: In patients who are immunosuppressed with a CD4 count of less than 50, antiviral, antifungal and PCP prophylaxis may be considered.

Regular investigations: FBC D1
LFTs D1
U&Es D1
Clinical Skin scoring and Imaging Every 2 cycles
ECO/MUGA scan and ECG Baseline and periodically when appropriate

Cardiotoxicitys: Cumulative dose Liposomal Daunorubicin = 320mg/m^2
Consider previous anthracycline exposure

ECHO/ MUGA scan should be performed more frequently where the patient is considered at risk of having impaired cardiac function e.g. significant cardiac history, hypertension, obese, smoker, elderly, previous exposure to anthracyclines, previous thoracic radiotherapy. MUGA scan should be repeated if there is suspicion of cardiac toxicity at any point during treatment.
*LVEF must be measured for all patients when a cumulative dose of 320mg/m² has been reached, then every 160mg/m² thereafter.

Transient ECG changes such as T-wave flattening, S-T segment depression and benign arrhythmias are not considered mandatory indications for cessation of treatment. A reduction of QRS wave is considered more indicative of cardiac toxicity.

**Toxicities:**
Myelosuppresion; infection; anaemia; cardiotoxicity; infusion associated reactions (including back pain, flushing, chest tightness, dyspnoea, allergic reactions); headache; dyspnoea; mucositis; nausea; vomiting; GI disorders; alopecia; fatigue; chills (refer to the product information sheet for full list of undesirable effects)

### DOSE MODIFICATIONS

#### Haematological Toxicity

**Neutrophils** | **Platelets** | **Liposomal Daunorubicin Dose**
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≥1.5 x 10⁹/L or ≥75 x 10⁹/L | Give 100% dose (first cycle)

Subsequent cycles:

≤0.8 x 10⁹/L or <75 x 10⁹/L | Delay treatment until Neutrophils > 0.8 x 10⁹/L and Platelets ≥ 75 x 10⁹/L; then give 100% dose

Some HIV patients run chronically low Neutrophil counts and may have low platelets due to Bone marrow involvement with HIV. In these cases where the need for chemotherapy to treat advanced Kaposi Sarcoma outweighs the risks, Calyx may be given at 75 - 100% Dose when Neutrophils 0.5 – 1.4 x 10⁹/L and Platelets 25 – 74 x 10⁹/L. This must be discussed with Consultant.

#### Renal Impairment:

<table>
<thead>
<tr>
<th>Serum Cr (µmol/L)</th>
<th>Liposomal Daunorubicin Dose</th>
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<tbody>
<tr>
<td>&gt;265</td>
<td>Give 50%</td>
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</tbody>
</table>

#### Hepatic Impairment:

<table>
<thead>
<tr>
<th>Bilirubin (µmol/L)</th>
<th>Liposomal Daunorubicin Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 50</td>
<td>Give 75%</td>
</tr>
<tr>
<td>&gt; 51</td>
<td>Give 50%</td>
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</table>

**Drug interactions:**
Concomitant use of other cardioactive compounds e.g. calcium channel blockers require monitoring of cardiac function throughout treatment

Avoid live vaccines during treatment
Avoid concurrent therapy with ganciclovir or systemic corticosteroids
References:

www.medicines.org.uk
Micromedex review: Liposomal Daunorubicin, accessed Oct-11
Gill P.S. et al. JCO 1996; 14(8); 2353-2364