20th Expert Committee on Selection and Use of Essential Medicines
Peer Review Report #2a

[Granulocyte Colony Stimulating Factor (G-CSF) for Ovarian Germ Cell Tumor (OGCT)](section 8.2)

(1) Does the application adequately address the issue of the public health need for the medicine?
   Yes ☒ No ☐

Please provide brief details:
The application suggested that G-CSF should be added to chemotherapy when a patients’ absolute neutrophil count decreased to less than 500 to prevent the occurrence of severe neutropenia and infection.
The studies we included also agree with that.

(2) Have all important studies that you are aware of been included in the application?
   Yes ☐ No ☒

Please provide brief comments on any relevant studies that have not been included:
Most of the important studies included in the application were reviews.
We added one guideline, and its conclusion was the same as the application.

(3) Does the application provide adequate evidence of efficacy/effectiveness of the medicine for the proposed use?
   Yes ☐ No ☒

Briefly summarise the reported outcomes (e.g. clinical, surrogate, other) and comment, where possible, on the magnitude of clinical benefit associated with use of the medicine:
Neither the application nor our additional studies provided the evidence about efficacy of G-CSF for OGCT.

(4) Is there evidence of efficacy in diverse settings and/or populations?
   Yes ☐ No ☒

Please provide brief details:
Neither the application nor our added study provided the evidence about efficacy of G-CSF in diverse settings or populations.

(5) Has the application adequately considered the safety and adverse effects of the medicine? Are there any adverse effects of concern, or that may require special monitoring?
   Yes ☐ No ☒
Please provide brief details:
The application did not provide the safety and adverse effects of G-CSF.
We found G-CSF related serious adverse effects including hemorrhage, myelodysplastic syndrome, sickle cell anemia with crisis, vasculitis of the skin, acute respiratory distress syndrome, hemoptysis, pulmonary hemorrhage, respiratory tract hemorrhage and rupture of spleen, and the common adverse effects of G-CSF such as bone pain from MicroMedix (an authoritative source of medicines information).

ADDITIONAL CONSIDERATIONS:

(6) Are there special requirements or training needed for the safe, effective and/or appropriate use of the medicine?

Yes ☒ No ☐

Please provide brief details:
Neither the application nor our added studies provide the special requirements or training needed for the use of the G-CSF.
G-CSF required to be subcutaneous or intravenous injection, so it should be used in medical institutions which can provide such conditions.

(7) Are there any issues regarding the registration of the medicine by regulatory authorities? (e.g., recent registration, new indications, off-label use)

Yes ☒ No ☐

Please provide brief details:
The application stated that G-CSF had been granted regulatory approval in the USA by FDA(US Food and Drug Administration) and also approved in EMA(European Medicines Agency), which indicated to cancer patients receiving myelosuppressive chemotherapy, chemotherapy and patients with severe chronic neutropenia.
We found G-CSF had been registered in CFDA(China Food and Drug Administration) for cancer patients with neutropenia during chemotherapy.

(8) Is the medicine recommended for use in a current WHO GRC-approved Guideline (i.e., post 2008)?

Yes ☐ No ☒

Please provide brief details:
There is no WHO GRC-approved Guideline for OGCT or G-CSF.

(9) Please comment briefly on issues regarding cost and affordability of this medicine.

The application stated that for low-risk patients, those with a less than 20% risk of developing FN, routine use of GCSF was not considered cost-effective.
The studies we included also suggested this conclusion.
Any additional comments?
G-CSF should not be routinely administered with standard-dose chemotherapy for OGCT. Only if the anticipated risk of FN and/or medical consequences from FN is high, prophylactic G-CSF may be considered.

Please summarise the action you propose the Expert Committee takes.

We don’t recommend G-CSF be listed in WHO EML for OGCT as routine use due to the current poor evidence.