METHOTREXATE, SERUM (EMIT)	µmol/L

Interpretation

TIME AFTER HIGH DOSE THERAPY	TOXIC LEVEL IN µmol/L
24 hours	**>= 5**
48 hours	**>=0.5**

Note

1. The concentration of Methotrexate in serum or plasma depends on the time of the last drug dose; mode of administration; concomitant drug therapy; time of sample collection; and individual variations in absorption, distribution, biotransformation, and excretion. These parameters must be considered when interpreting results.

2. Aminopterin, an antineoplastic agent when administered concurrently with Methotrexate, and 4-amino-4-deoxy-N10-methylpteroic acid (APA), a minor metabolite of Methotrexate, cross-reacts significantly with this assay.

3. Renal disease, ascites, pleural effusions, gastrointestinal obstruction, urinary pH, or other drugs delay the clearance of Methotrexate. In these cases toxic concentrations may last beyond the usual duration of Leucovorin rescue.

Comments

Methotrexate is effective against malignanacies with rapid cell proliferation like Acute Lymphoblastic Leukemia, Choriocarcinoma, Trophoblastic tumors in females & Carcinomas of Breast, Tongue, Pharynx and Testis. It is used as an antineoplastic agent against these tumors, administered at a high dose and usually followed by Leucovorin (Folinic acid) recue to salvage non-tumor cells. Following therapy, serum concentration is used to judge whether the drug is being cleared appropriately and verify that a non-toxic level has been attained.