

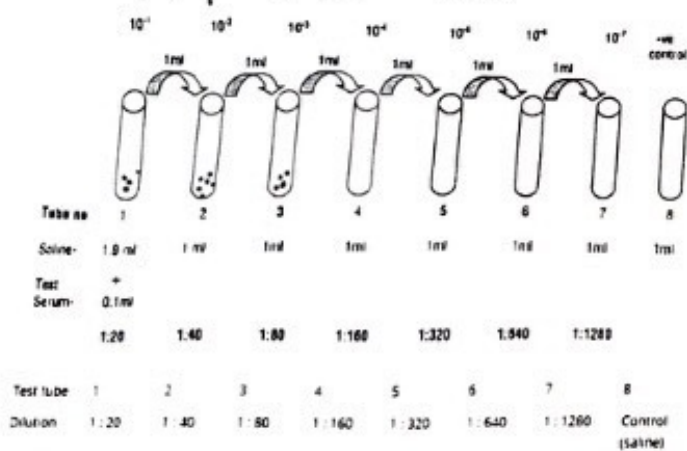
Clinical case:

A six-year-old boy admitted to emergency department at Albalqa University hospital with a history of persistent fever not responding to Amoxicillin or acetaminophen, he was in a trip with his family to Africa who have been travelling to Jordan in the last 7 days, on further questioning; his parents remembered a recent bout of diarrhea after ingestion of sea food, in which he has not been treated.

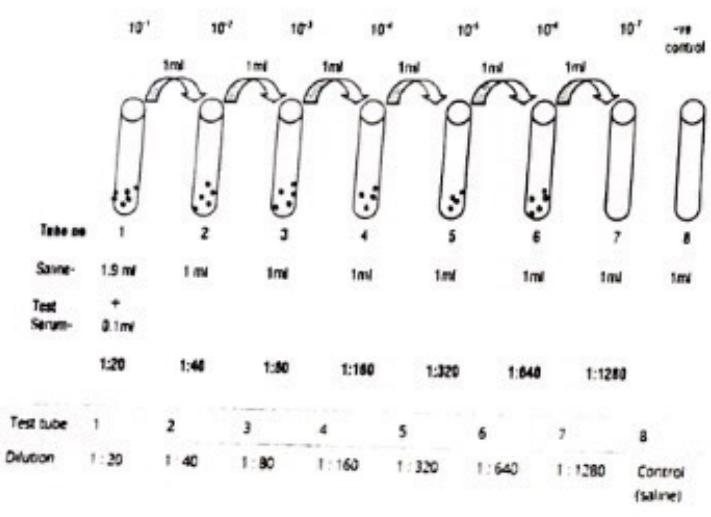
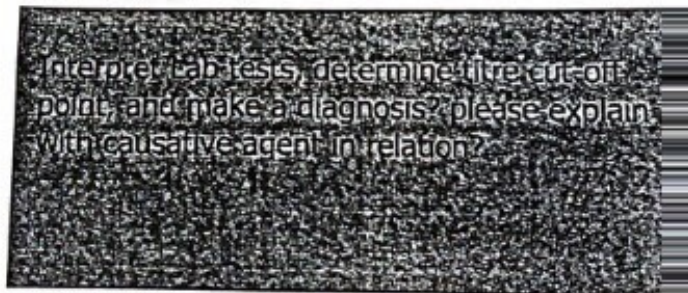
on physical examination, he was febrile with abdominal pain, pt was examined with ultrasonogram of the abdomen. Hematology-cell analysis, serology (Widal test), urine analysis, and blood cultures were also performed. The results revealed mild hepatosplenomegaly, Hematological analysis showed a white blood count of 6,300 cells mL⁻¹; a red blood cell count of 4.54 million/cu mm. The erythrocyte sedimentation rate (ESR) was 24 mm/1 hr; hemoglobin level of 11.5 g/dl; and a platelet count of 206,000 cells/mL. The patient's serum was agglutinated with lipopolysaccharide (TO), and flagellar antigen (TH) titre was:

The results were as the following:

Serology (Widal test)



TH titre?



TO titre?

Normal Lab values

Normal platelet count
150,000 to 450,000 per microliter of blood

HEMATOLOGY – Red Blood Cells.

- RBC (Male) $4.2 - 5.6 \times 10^6 / \mu\text{L}$
- RBC (Female) $3.8 - 5.1 \times 10^6 / \mu\text{L}$
- RBC (Child) $3.5 - 5.0 \times 10^6 / \mu\text{L}$

HEMATOLOGY – White Blood Cells.

- WBC (Male) $3.8 - 11.0 \times 10^3 / \text{mm}^3$
- WBC (Female) $3.8 - 11.0 \times 10^3 / \text{mm}^3$
- WBC (Child) $5.0 - 10.0 \times 10^3 / \text{mm}^3$

HEMOGLOBIN

- Hgb (Male) 14 – 18 g/dL
- Hgb (Female) 11 – 16 g/dL
- Hgb (Child) 10 – 14 g/dL
- Hgb (Newborn) 15 – 25 g/dL

ESR

Adults (Westergren method)

- Men under 50 years old: less than 15 mm/hr
- Men over 50 years old: less than 20 mm/hr
- Women under 50 years old: less than 20 mm/hr
- Women over 50 years old: less than 30 mm/hr

Children (Westergren method):

- Newborn: 0 to 2 mm/hr
- Newborn to puberty: 3 to 13 mm/hr

Note: mm/hr = millimeters per hour

Normal value ranges may vary slightly among different laboratories.