Investigating PUO

PUO actually has a specific definition: a temperature >38°C for >3 weeks **PLUS** >2 visits to hospital **OR** >3 days of investigation in hospital. A PUO is not just a patient with a fever for whom you do not yet have a diagnosis! The flow diagram demonstrates how to avoid a haphazard and chaotic investigation of PUO; where common tests are missed and uncommon tests are repeated many times.

1st line investigations

- History & examination including:
  - Localizing symptoms e.g. right upper quadrant pain indicating possible liver pathology
  - Travel
  - Animal contact
- Drug history (prescribed & not prescribed)
- Blood tests – Daily FBC, U&Es, LFTs, CRP (+/- ESR)
- Midstream urine (MSU) – MC&S
- Blood cultures – 3 sets over 24 hours for bacteraemia or infective endocarditis
- Chest X-ray
- If localizing symptoms or signs consider CT chest, abdomen & pelvis +/- biopsy
- **DO NOT give empirical antibiotics until a diagnosis is made**

2nd line investigations if no diagnosis after 3-7 days

- Repeat history & examination
- Tuberculosis – Sputum +/- early morning urine cultures, IGRA (for latent TB)
- Viral infections – Blood for HIV, CMV, EBV, & Hepatitis A, B & C (if LFTs abnormal)
- Infectious mononucleosis – Blood for Monospot or Paul Bunnell in under 30 year olds
- Haematological malignancy – LDH, Ferritin
- Connective tissue disorder – Rheumatoid factor, antinuclear antibodies (ANA), antineutrophil cytoplasmic antibodies (ANCA), Ferritin
- Localization of tissue for biopsy – CT chest, abdomen & pelvis +/- biopsy

3rd line investigations if no diagnosis after 2 weeks

- Consider CT PET scan to look for potential diagnostic biopsy target
- Consider echocardiography if infective endocarditis strongly suspected
- If foreign travel or unusual occupational/recreational exposure discuss further investigations with a Microbiologist