

# The Rapid Diagnostic Centre Approach to Investigation of Raised Inflammatory Markers

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Raised inflammatory markers CRP, ESR, and PV, are associated with cancer and may predate the diagnosis by several months. Appropriate and timely investigations may help improve the early detection of cancer. Inflammatory markers are not recognised within current guidelines for cancer diagnosis with the exception of myeloma, where first line tests include ESR or PV.

There is little evidence to support the use of inflammatory markers as a 'rule-out' test for cancer. Cohort studies in the general population have examined the association between raised CRP and cancer risk; however the associations are not strong enough to be clinically useful for identification of cancer or to use as a 'rule-out' test.

## History

- A detailed history including red flag symptoms for malignancies
- Consider constitutional symptoms: weight loss, fevers, drenching night sweats
- In depth assessment if fevers present, fever patterns i.e. swinging
- A review of symptoms related to infection or inflammatory/autoimmune process.
- Review for potential risk factor for malignancy, for example smoking history, occupational history, family history
- Recent illness, surgery or pregnancy
- Antibiotic usage

## Examination

Through face-to-face examinations including ENT exam and urinalysis

## Investigations

- Review of historic inflammatory markers and reasons for testing need to be taken into account
- Bloods: FBC, blood film, iron studies, ferritin, B12, folate, CRP, ESR, PSA (males), CA125, TFTs, coeliac screen, stool culture, ocp.
- Full septic screen including CXR, Urine MSU, sputum MC&S, skin swabs, blood cultures, echocardiogram if spiking fevers
- Myeloma screen: Immunoglobulins, Serum Free Light Chains, Protein Electrophoresis

- If indicated: haematology review +/- bone marrow aspiration/biopsy
- Extended liver profile if indicated: Hep (A/B/C), EBV, CMV, Anti-mitochondrial antibody, Anti-smooth muscle antibody, Anti-liver/kidney microsomal antibodies, Anti-nuclear antibody, p-ANCA, IgM/IgG, Alpha-1 antitrypsin Serum Copper, Ceruloplasmin, ferritin.
- Immunology: anti-nuclear, anti-dsDNA, anti-smith, and antiphospholipid antibodies, and complement levels

If the above investigations are negative but on going raised inflammatory markers, may warrant a discussion with Infection Diseases/Microbiology/Rheumatology. If there are associated symptoms suspicious of cancer the following investigations may be useful:

- Low with a low threshold for CT chest with contrast (if renal function and allergy status permit) for patients with a significant smoking history or signs/symptoms suggestive of lung cancer.
- Quantitative FIT test (consider further investigation if FIT >10ug/g or significant lower GI symptoms, such as a colonoscopy or CT pneumocolon).
- Consider OGD in patients with new upper-GI symptoms (nausea and vomiting, dyspepsia, epigastric pain) or weight loss.
- Consider organising a trans-vaginal ultrasound scan for women over the age of 55 years with unexplained PV discharge or frank haematuria.
- CT head if neurological symptoms present.
- If CT CAP normal and persistently raised ESR/CRP consider PET CT

## References

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