Gateshead NHS Primary Care Trust
Gateshead Health NHS NHS Foundation Trust

Prevention and Management of Infection in patients with Autoimmune Rheumatic Disease

Effective Date:	**September 2007**
Reviewed:	**January 2010 & January 2012**
Review Date:	**January 2014**
Approved By:	**Gateshead Medicines Management Committee**

Vaccination

Influenza immunisation

- All patients with RA and all rheumatic disease patients on steroids or disease modifying drugs should be offered an annual influenza vaccination
- Carers should be vaccinated in accordance with DOH guidelines
- Rheumatology staff should be vaccinated in accordance with DOH guidelines

Pneumococcal Vaccination

- All patients with RA and all rheumatic disease patients on steroids or disease modifying drugs should be offered vaccination against pneumococcus
- There are studies which show a suboptimal response to pneumococcal vaccination where the patient is receiving treatment with methotrexate. Patients on treatment with biologics are at significant risk from pneumococcal infection. Where possible vaccination should occur prior to commencing biologic drugs

Revaccination: current advice reads as follows- In individuals with higher concentrations of antibodies to pneumococcal polysaccharides revaccination with the 23-valent pneumococcal polysaccharide vaccine more commonly produces adverse reactions. Revaccination is therefore not recommended except every 5 years in individuals in whom the antibody concentration is likely to decline rapidly (e.g. asplenia, splenic dysfunction and nephritic syndrome) If there is doubt, the need for revaccination should be discussed with a haematologist, immunologist or microbiologist.

After discussion with the immunology team we will check titres of pneumococcal antibody in the following groups

- Those patients who received pneumococcal vaccination whilst on methotrexate and are about to start treatment with anti TNFs. If the titre is less than 35mg/L(NR20-200mg/L) patients will be reimmunised and titres rechecked at 4 weeks.

- Patients with one or more pneumococcal infections should have pneumococcal titres checked one month post infection regardless of DMARD and be reimmunised as above.

Other vaccinations

Live vaccinations should be avoided. General guidance on vaccination is published by the British Society for Rheumatology.

Chicken Pox

Chicken pox immunisation is not recommended as it is a live vaccine. The policy for management of contact with chicken pox and shingles is listed in appendix 1.

Management of infection

General Education

- All patients on DMARDs should be advised to seek help if an infection develops. Patients on immunosuppressive DMARDS (i.e. methotrexate, cyclosporine, azathioprine, tocilizumab and anti TNFs should present to A&E if unable to see a doctor at their own practice within 12 hours. Patients within 9 months of a rituximab infusion and those on cyclophosphamide should contact secondary care immediately. Patients have been issued with advice on how to do this.

- Patients on immunosuppressive DMARDS or biologics should be advised to stop the drug in the event of an infection needing antibiotics or if severe viral infections such as shingles develops

- The above should be reinforced at each clinic visit

Neutropenic sepsis

Patients presenting with neutropenic sepsis should be managed in accordance with the following guidelines

- Antimicrobial Management Committee
  Neutropenic Sepsis: A Medical Emergency January 2012

- Gateshead Trust GCSF guidelines

- Rheumatology team Folinic Acid washout (appendix 2)
- Rheumatology team colestyramine washout (appendix 3)

Management of Sepsis in rheumatic disease patients without neutropenia

Hospital management of rheumatic disease patients without neutropenia

- Screen- peripheral blood cultures, MSU, sputum, throat swab, swabs from any lesion, aspirate any swollen / tender joints and send for Gram stain and C&S (orthopaedics will help if out of hours), viral titres, CXR, urgent FBC and other bloods as appropriate
- Stop azathioprine, Methotrexate, Cyclosporin, leflunomide, mycophenolate, cyclophosphamide, tocilizumab and anti TNFs. Only stop other DMARDs if outwith safe monitoring parameters. See rheumatology website for further details (trust intranet- department A-Z-rheumatology-drug information.
- If patient is on Methotrexate and the WCC is less than 5 $x10^9$ /l start oral folinic acid
- Follow Gateshead Health NHS Foundation Trust Adult Antimicrobial Guidelines for Secondary Care January 2012. PLEASE NOTE THAT TRIMETHOPRIM IS CONTRAINDICATED IN PATIENTS ON METHOTREXATE AND CYCLOSPORIN HAS A SIGNIFICANT INTERACTION WITH CLARITHROMYCIN. Where appropriate follow guidelines for empirical hospital treatment of adult community acquired pneumonia
- If the patient has a suspected septic arthritis contact the medical microbiologist for advice with regards to initial antimicrobial treatment

Remember

- Immunosuppressive drugs and steroids may suppress fever
- If CXR shows infiltrates and patient is on an anti TNF, tocilizumab, mycophenolate, Cyclosporin, cyclophosphamide, rituximab, azathioprine or Methotrexate consider early BAL
- If on steroids boost dose to cover stress response . In general double dose of steroid for 24-48 hours until over acute episode. GIVE STEROIDS IV IF UNABLE TO MANAGE ORAL DOSE. Endocrine team are happy to give support / advice if uncertain.

- Stop NSAIDS if hypotensive or evidence of renal impairment
- Patients on immunosuppressives can deteriorate rapidly, consider involving CCOT and anaesthetics early. Do involve anaesthetic team if patient has chest infection and CURB score 3 or more, EWS >5 or presence of any physiological triggers
- Inform rheumatology team of admission

Primare Care Management

- Patients on immunosuppressive DMARDs or Biologics should be seen within 12 hours of onset of symptoms. If unwell they should be immediately referred to secondary care.
- Patients on Rituximab within 9 months of an infusion and those on cyclophosphamide will have been instructed to seek medical help immediately in the event of symptoms suggestive of infection. Secondary care will provide the patient with appropriate contact details.
- All patients will be provided with written information to present to medical staff in the event of an emergency to ensure that they are triaged appropriately.

For all other patients

- Withhold immunosuppressive DMARDS and other DMARDs if outwith safe monitoring parameters and biologic agents for the duration of antibiotic therapy. In the case of shingles until wounds have healed

- Obtain FBC and any other microbiology specimen as appropriate.

- Start antibiotics as per Gateshead Primary Care Trust Evidence – based Antibiotic Guidance. Remember there is a significant interaction between Methotrexate and Trimethoprim/ Septrin and this should not be used for the management of UTI in patients on methotrexate. Cyclosporin has a significant interaction with clarithromycin.

- Infection can often trigger a flare in rheumatoid arthritis. Local steroid injections are contraindicated in the presence of systemic infection

- If in doubt, if the infection fails to improve or if there are problems managing joint disease whilst the patient is on antibiotics contact the consultant responsible for the patients care or the on call rheumatology consultant for advice.

TUBERCULOSIS

Tuberculosis is on the rise again and is associated with the use of biological agents, especially Infliximab. All patients commencing Biologic therapy require a pre-treatment chest x-ray and screening as per BTS guidelines. (reference BTS recommendations for assessing risk and for managing mycobacterium tuberculosis infection and disease in patients due to start anti TNF treatment. Thorax2005;60:800-805 or available via BTS website (http://www.brit-thoracic.org.uk/clinical-information/anti-tnf-%CE%B1-treatment/anti-tnf-%CE%B1-treatment-guideline.aspx)

CXR will be repeated 6 months after commencing a new anti TNF and will be repeated should the patient develop any symptoms suggestive of TB.

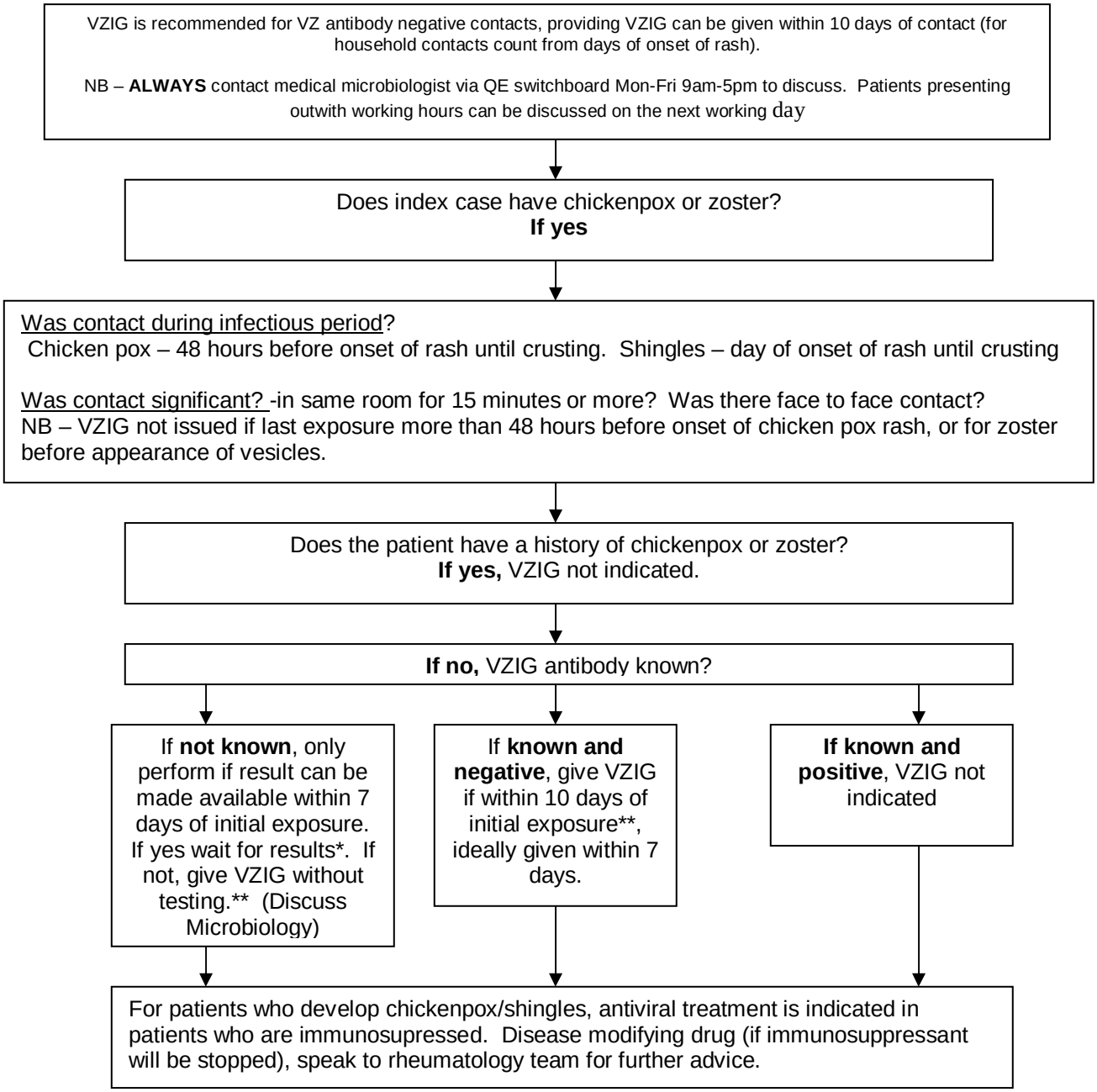
Tuberculosis can also present with articular features in patients on oral immunosuppressives – e.g. azathioprine, methotrexate.

Any patient on biologics or immunosuppressives with unexplained bone pain or joint effusion needs to be rapidly referred to the Dept of Rheumatology for full evaluation, especially if constitutional symptoms develop.

Department of Rheumatology January 2010

Appendix 1

Management of contacts with chicken pox and shingles (Varicella Zoster) during treatment with immunosuppressants or high dosage steroids (equivalent to around 40mg per day of Prednisolone for more than 1 week within the last 3 months)



*Send clotted tube to QE Bacteriology lab. Result should be available within 24 hours
** VZIG available from Health Protection Agency at Newcastle General Hospital free of charge. If problems with supply please contact medical microbiologist via QE switchboard.

Appendix 2

METHOTREXATE: FOLINIC ACID RESCUE

Significant drop in cellular counts can occur as a result of methotrexate induced bone marrow suppression. It is particularly likely in the elderly and in patients with significant renal impairment or in patients with concomitant administration of anti folate drugs. A significant drop in cellular count should be treated immediately by

- Withdrawing methotrexate therapy
- Discussing with supervising specialist team / medical on call team or on call haematologist
- Folinic Acid rescue: The initial dose should be Folinic Acid (calcium folinate) 20mg given intravenously. Subsequent doses of 15mg (which may be taken orally) should be given at 6 hourly intervals until the haematological abnormalities are improved (usually not more than 2-8 doses). If serum methotrexate is measured, a dose of 20mg usually is sufficient for a methotrexate concentration of 0.5micromoles/l or less.

PLEASE NOTE THAT FOLINIC ACID (CALCIUM FOLINATE) IS STORED IN THE EMERGENCY DRUG CUPBOARD WITH THE INJECTABLE FORM IN THE FRIDGE.

Appendix 3

GP Information sheet: LEFLUNOMIDE (ARAVA) WASH OUT PROCEDURE

To aid drug elimination in cases of serious adverse effect or before conception, stop treatment and give either colestyramine 8g three times daily for 11 days or activated charcoal 50g four times daily for 11 days; The concentration of active metabolite after washout should be less than 20 mcg/l (measured on 2 occasions 14 days apart) in men and women before conception (consult product literature).