BIOLOGICAL AGENTS IN ADULT ONSET STILL’S DISEASE

The Pan Mersey Area Prescribing Committee recommends the prescribing of anakinra, etanercept, infliximab or tocilizumab in Adult Onset Still’s Disease

Prescribing of anakinra, etanercept, infliximab or tocilizumab in Adult Onset Still’s Disease (AOSD) must be in accordance with the Pan Mersey pathway for the management of AOSD.

Biological agents may be used in patients who are steroid dependent, or who have continued disease activity despite usual doses of oral corticosteroids and where addition of methotrexate fails to control disease, or where methotrexate is not tolerated.

The choice of biological agent depends on whether disease is polyarticular or systemic disease predominant, and on any additional factors and co-morbidities (see pathway).

Where response to the first biological agent is inadequate, an alternative biological agent may be substituted (see pathway).

Note: Patients who are not eligible for treatment under this statement may be considered on an individual basis where their GP or consultant believes exceptional circumstances exist that warrant deviation from the rule of this policy. In this situation, follow locally defined processes.
# BIOLOGICAL AGENTS IN ADULT ONSET STILL’S DISEASE

## EFFECTIVENESS

Tocilizumab has shown positive results in patients with refractory AOSD in several case series.\(^{1,4}\) Results from randomised placebo-controlled trials are available in systemic onset Juvenile Idiopathic Arthritis (Still’s Disease) but not in the adult form of the disease.\(^{5,6}\) In these trials patients generally responded rapidly and experienced sustained clinical remission over time. Moreover, the effect of tocilizumab persisted for >6months after its discontinuation. In AOSD tocilizumab seems to have beneficial effects on systemic and articular features and has a steroid sparing effect.

Anakinra efficacy is reported in retrospective studies\(^{7-13}\) and one prospective randomised open-label study.\(^{14}\) Most studies examined the resolution of systemic symptoms rather than articular symptoms. In almost all cases inflammatory markers reverted to normal within about 2 weeks and corticosteroids could be tapered and discontinued. However relapses occurred more frequently with anakinra.

For anti-TNF agents data from case reports, retrospective case series and one prospective randomised open-label trial are available. Complete remissions have been observed\(^{15-19}\) but more effective for polyarticular disease \(^{20-23}\) and less effective on systemic symptoms.\(^{24-25}\)

The literature suggests that in these patients infliximab is more effective but no prospective studies confirm this.\(^{26}\)

A number of case reports have described patients who have failed treatment with anti-TNF agents and have subsequently responded to alternative anti-TNF agents or anakinra, patients who have failed treatment with anakinra who have subsequently responded to tocilizumab, and a very limited number who have failed treatment with both anti-TNF agents and anakinra who have subsequently responded to tocilizumab.\(^{23}\)

## SAFETY

Biological agents are contra-indicated in active tuberculosis or other severe infection, and in Class III or IV heart failure. Caution should be exercised as biological agents increase risk of infections, and they should be used with caution in patients with history or at increased risk of tuberculosis, hepatitis B, malignancies and lymphoproliferative disorders, skin and other cancers, heart failure, blood dyscrasias, demyelinating disease – see individual product SPCs for further details.

Most common side-effects are infection, skin cancer, blood dyscrasias, hypersensitivity, increased lipids, electrolyte disturbances, mood alterations, headache, paraesthesia, visual disturbance, vertigo, tachycardia, hypertension, flushing, breathlessness, cough, GI pain, elevated LFTs, rash, worsening of psoriasis, muscle pain, renal impairment, injection site reaction, oedema and pyrexia. See individual product SPCs for further details.

## COST

Across Pan Mersey there are currently 12 patients on biologics for AOSD. 2 were started in the last 12months. It is anticipated that a maximum of 4 patients will be started on any one of the biologics in the pathway in the next 12 months.

- **Cost of treatment per year** (basic NHS price BNF/MIMS accessed 23 Mar 2016, £472 tariff per infusion):
  - Tocilizumab: intravenous £10,650 incl. VAT (70kg person) + £6136 tariff costs = £16,786, subcutaneous £11,871 excl.VAT (excluding PAS discount)
  - Anakinra £9548
  - Etanercept £9,295 (biosimilar £8,528)
  - Infliximab £9,979 - 14,802 incl. VAT (70kg person) + £3688 tariff for first year and £3227 for subsequent years = £13,206 - £18,029 ( biosimilar £12,208 - £16,549)

Mean cost £12,582 per patient per year. Current cost in Pan Mersey area is estimated £10,000 per 100,000, possibly rising to £27,000 per 100,000 over 5 years.

## PATIENT FACTORS

See individual product SPCs.

## PRESCRIBING INFORMATION

See individual product SPCs. Biological agents are unlicensed in AOSD.

## IMPLEMENTATION NOTES

Prescribing should be retained by the specialist. Patients should be given the special alert card.

## REFERENCES

3. Elkayam O et al J Rheumatol 2014; 41(2): 244 - 247
12. Laskari K et al Arthritis Res Ther 2011;13(3): R91