Let’s talk about…Biologics

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Synthetic DMARDs

Conventional

- methotrexate
- sulfasalazine
- leflunomide
- hydroxychloroquine
- corticosteroids

Targeted

- Janus kinase inhibitors
  - tofacitinib

Biologic DMARDs

Tumour necrosis factor antagonists

- adalimumab
- golimumab
- certolizumab pegol
- infliximab*
- etanercept

IL-1 receptor antagonist

- anakinra

IL-6 receptor antagonist

- tocilizumab

Anti-CD20 monoclonal antibody

- rituximab

CTLA-4-Ig fusion protein

- abatacept

PBS criteria

- RA
- As
- PsA

Criteria's are different and different medications approved

Biological agent details

10 Which biological agent is this application for?

- ☐ Abatacept i.v.
- ☐ Abatacept s.c.
- ☐ Abatacept s.c. with i.v. loading
- ☐ Adalimumab
- ☐ Baricitinib
- ☐ Certolizumab pegol
- ☐ Etanercept
- ☐ Golimumab
- ☐ Infliximab
- ☐ Tocilizumab i.v.
- ☐ Tocilizumab s.c.
- ☐ Tofacitinib

12 Has the patient undertaken a 6 months intensive disease modifying antirheumatic drug (DMARD) treatment trial with a minimum of 2 agents for a minimum of 3 months each?

No ☐

Yes ☐ Give details of DMARD treatment

DMARD	From	To	Dose	Minimum dose
a) methotrexate	/ /	/ /		20 mg/week
b) hydroxychloroquine	/ /	/ /		200 mg/day
c) leflunomide	/ /	/ /		10 mg/day
d) sulfasalazine	/ /	/ /		2 g/day
e) azathioprine	/ /	/ /		1 mg/kg/day
f) cyclosporin	/ /	/ /		2 mg/kg/day
g) sodium aurothiomalate	/ /	/ /		50 mg weekly

All patients must trial: **a)**, **and either b)**, **and/or c)**, **and/or d)**

14 The patient can demonstrate failure to achieve an adequate response to prior intensive DMARD treatment by:

☐ an elevated ESR > 25 mm/hr

ESR result	Date of test
	/ /

and/or

☐ an elevated CRP > 15 mg/L

CRP result	Date of test
	/ /

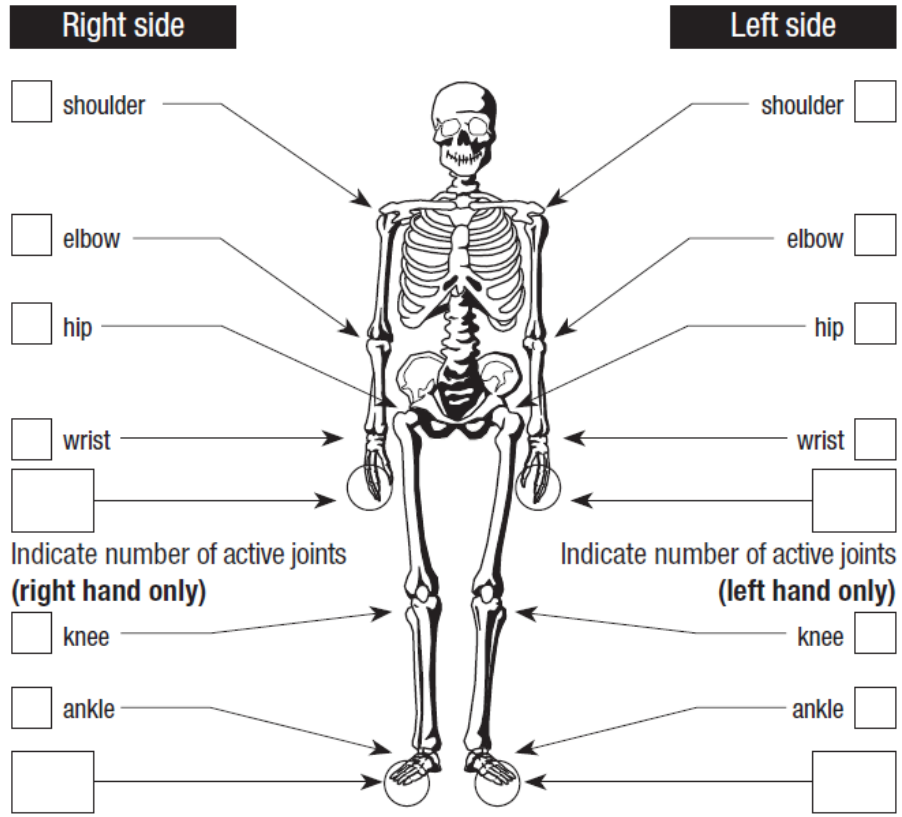
16 The patient has:

☐ an active joint count of at least 20 active (swollen and tender) joints

or

☐ at least 4 major active joints: elbow, wrist, knee, ankle, shoulder and/or hip.

17 Indicate affected joints on the diagram and complete the boxes below:



Current active joint count

Date of joint assessment

/ /

Ankylosing spondylitis

Biological agent details

11 Which biological agent is this application for?

- ☐ adalimumab
- ☐ certolizumab
- ☐ etanercept
- ☐ golimumab
- ☐ infliximab
- ☐ secukinumab

Conditions and criteria

To qualify for PBS authority approval, the following conditions must be met.

12 The patient:

- ☐ is an adult with ankylosing spondylitis

and

- ☐ the patient has not received any PBS subsidised treatment for this condition with a biological agent in this treatment cycle for this condition

and

- ☐ has documented radiographically (plain x-ray) confirmed Grade II bilateral sacroiliitis or Grade III unilateral sacroiliitis

and

has at least **2** of the following:

- ☐ low back pain and stiffness for 3 or more months that is relieved by exercise but not by rest

and/or

- ☐ limitation of motion of the lumbar spine in the sagittal and the frontal planes as determined by a score of at least 1 on each of the lumbar flexion and lumbar side flexion measurements of the Bath Ankylosing Spondylitis Metrology Index (BASMI)

15 The patient can demonstrate failure to achieve an adequate response to NSAID treatment and concomitant exercise program by:

☐ Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) assessment score of at least 4 on a 0–10 scale

and

☐ an elevated erythrocyte sedimentation rate (ESR) > 25 mm/hr

ESR level	Date of test
	/ /

and/or

☐ an elevated C-reactive protein (CRP) > 10 mg/L

CRP level	Date of test
	/ /

Biological agent details

11 Which biological agent is this application for?

- ☐ Adalimumab
- ☐ Certolizumab pegol
- ☐ Etanercept
- ☐ Golimumab
- ☐ Infliximab
- ☐ Ixekizumab
- ☐ Secukinumab
- ☐ Tofacitinib
- ☐ Ustekinumab

☐ has failed to achieve an adequate response following a minimum of 3 months treatment with:

☐ Methotrexate, at a dose of at least 20 mg/week

From / /

to / /

and

☐ Sulfasalazine, at a dose of at least 2 g/day

From / /

to / /

or

☐ Leflunomide, at a dose up to 20 mg/day

From / /

to / /

Current assessment of patient

14 The patient can demonstrate failure to achieve an adequate response to prior disease-modifying anti-rheumatic drugs (DMARD) treatment by:

☐ an elevated erythrocyte sedimentation rate (ESR) > 25 mm/hr

ESR level

Date of test / /

and/or

☐ an elevated C-reactive protein (CRP) > 15 mg/L

CRP level

Date of test / /

16 The patient has:

☐ an active joint count of at least 20 active (swollen and tender) joints

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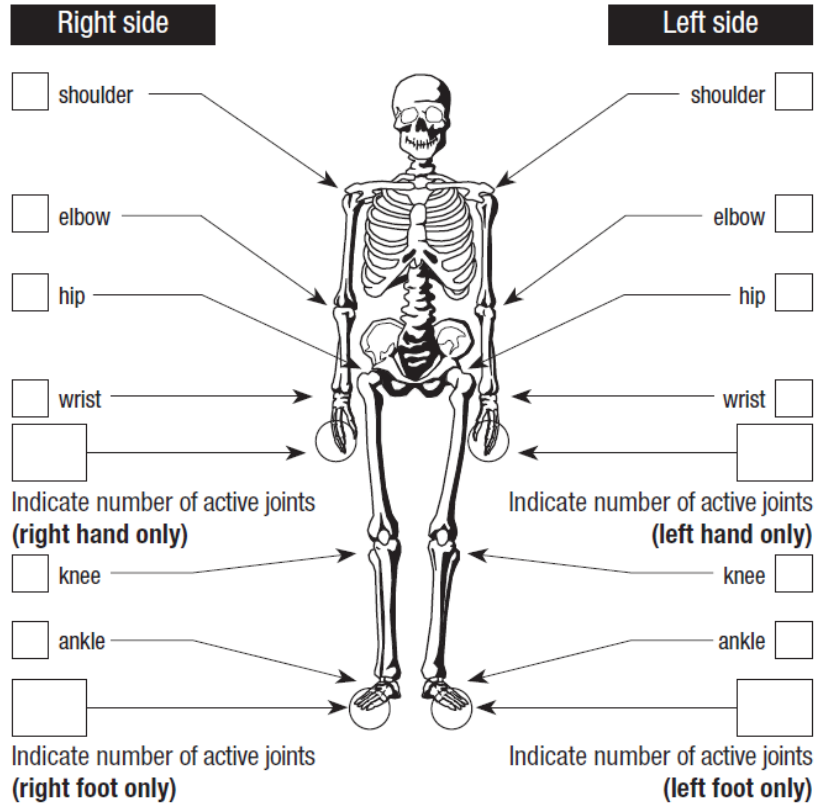

Current active joint count

☐

Date of joint assessment

☐ / /

Safety

ARAD

RESEARCH ARTICLE Open Access

Malignancy risk in Australian rheumatoid arthritis patients treated with anti-tumour necrosis factor therapy: an update from the Australian Rheumatology Association Database (ARAD) prospective cohort study

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Abstract

Background: Tumour necrosis factor inhibitor (TNFi) therapy has been available for rheumatoid arthritis (RA) patients for several decades but data on the long-term risk of malignancy associated with its use is limited. Our aims were to assess malignancy risk in a cohort of Australian RA patients relative to the Australian population and to compare cancer risk for patients exposed to TNFi therapy versus a biologic-naïve group.

Methods: Demographic data for RA participants enrolled in the Australian Rheumatology Association Database (ARAD) before 31 Dec 2012 were matched to national cancer records in May 2016 (linkage complete to 2012). Standardised incidence ratios (SIRs) were used to compare malignancy incidence in TNFi-exposed and biologic-naïve ARAD participants with the Australian general population using site-, age- and sex-specific rates by calendar year. Malignancy incidence in TNFi-exposed participants and biologic-naïve RA patients, were compared using rate ratios (RRs), adjusted for age, sex, smoking, methotrexate use and prior malignancy.

Results: There were 107 malignancies reported after 10,120 person-years in the TNFi-exposed group ($N = 2451$) and 49 malignancies after 2232 person-years in the biologic-naïve group ($N = 574$). Compared with the general population, biologic-naïve RA patients showed an increased risk for overall malignancy (SIR 1.52 (95% confidence interval (CI) 1.16, 2.02) prostate cancer (SIR 2.10, 95% CI 1.18, 4.12). The risk of lung cancer was increased for both biologic naïve and TNFi-exposed patients compared with the general population (SIR 2.69 (95% CI 1.43 to 5.68) and SIR 1.69 (95% CI 1.05 to 2.90) respectively). For the TNFi-exposed patients there was an increased risk of lymphoid cancers (SIR 1.82, 95% CI 1.12, 3.18). There were no differences between the exposure groups in the risk of cancer for any of the specific sites examined.

Conclusions: Overall malignancy incidence was elevated for biologic-naïve RA patients but not for those exposed to TNFi. TNFi exposure did not increase malignancy risk beyond that experienced by biologic-naïve patients. Lung cancer risk was increased for both TNFi-treated and biologic-naïve RA patients compared with the general population suggesting that RA status or RA treatments other than TNFi may be responsible in some way.

Keywords: Rheumatoid arthritis, Malignancy, Tumour necrosis factor, Biologic therapy

Questions