



## PIC QUESTION OF THE WEEK: 2/04/08

Q: Can you provide a list of the current indications for the various TNF inhibitors?

A: Tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) plays a key role in a variety of auto-immune inflammatory disorders. One of many cytokines, TNF- $\alpha$  is released by macrophages and fibroblasts and directly results in synovial and joint destruction. TNF- $\alpha$  can also induce a variety of other cytokines that contribute to the inflammatory cascade associated with several diseases. TNF- $\alpha$  inhibitors were first introduced in 1998 with the marketing of infliximab (Remicade) and etanercept (Enbrel). Adalimumab (Humira) has been available since 2002. Infliximab and adalimumab are monoclonal antibodies that bind to soluble and membrane-bound TNF- $\alpha$  while etanercept is a recombinant soluble p75 TNF receptor:Fc fusion protein that prevents the binding of TNF- $\alpha$  to its receptors. Because of the significant role played by TNF- $\alpha$  in many disorders, the use of this group of compounds continues to expand. These drugs influence a number of body systems and their potential adverse effects include blood dyscrasias, exacerbation of multiple sclerosis and congestive heart failure, increased risk of infection (including tuberculosis), and possible association with lymphoma and other malignancies. One of the major concerns with these products is expense. The average patient cost for one year of treatment with etanercept can approach \$17,000. The following table includes the labeled indications for each of the three TNF- $\alpha$  inhibitors currently marketed in this country.

Indications for TNF- $\alpha$ Inhibitors*			
Drug	Adalimumab	Etanercept	Infliximab
Indications	Ankylosing spondylitis Crohn's disease Plaque psoriasis Psoriatic arthritis Rheumatoid arthritis	Ankylosing spondylitis Arthritis Juvenile rheumatoid arthritis Plaque psoriasis Rheumatoid arthritis	Ankylosing spondylitis Crohn's disease Plaque psoriasis Psoriatic arthritis Rheumatoid arthritis Ulcerative colitis Uveitis

\* based on product package inserts; accessed January 2008

### References:

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