Analyzing the risks & benefits of the treatment of Crohn's Disease (CD)

BENEFITS VS RISKS associated with medications

- Risks of requiring surgery within 5 years of CD diagnosis can be as high as 50%! Medications help reduce the need for surgery.

- Medications used in the treatment of CD, such as thiopurines and 5-ASA agents, have also been associated with a reduced incidence of advanced colonic neoplasia and colorectal cancer, potentially through reducing inflammation (in some studies 10 X less risk and 2 X less risk respectively).

- Immunosuppressive agents have also been shown to improve quality of life in individuals with IBD, and often restore health perception to normal.

5-Aminosalicylates (5-ASA): used for the induction and maintenance of remission in CD.

- Minimal adverse events: pancreatitis (1/million days) or kidney irritation (26/10,000 patients).
- No known infectious or malignant complications.

Thiopurines: used as corticosteroid-sparing agents for maintenance of remission in treatment of CD.

- Adverse events: allergic-mediated response within 2-4 weeks of initiating thiopurines.
- Possible symptoms: flu-like illness, malaise, fevers, nausea, rash, abdominal pain, pancreatitis, liver irritation.
- Can cause lower white blood cell counts in 2.2-15% of cases.
- Infectious complications can occur 7.4% of patients (similar to the rate in a control population).
- Malignancy risk is thought to be limited to increased risk of lymphoma (4/10,000 versus 2/10,000 in general population) and non-melanoma skin cancer (NMSC). Risk is 6/10,000 for combined thiopurine and anti tumor-necrosis factor (anti-TNF).

Methotrexate: Used for maintenance of remission in patients with CD, as a corticosteroid sparing agent.

- Side effects can include nausea and vomiting, skin rash, headache, hair loss, liver abnormalities, numbness in extremities and lung irritation.
- Can be associated with increased photosensitivity , with increased skin cancer risks in some populations.

Biologic anti-TNF agents: Infliximab, certolizumab pegol, adalimumab: used for induction and maintenance of remission.

- Generally well tolerated. Only rare reports of abnormal liver function, reduced blood counts and allergic syndromes.
- Increased infectious and malignant complications have been associated with infliximab.
- Associated with reactivation of tuberculosis or hepatitis B if a patient has been previously exposed; screening for latent infections is recommended.
- Not associated with any increased infection-related mortality.
- Linked to certain malignancies, in particular, an increased lymphoma risk.
- Also, has been associated with increased NMSC risk in patients with IBD, with increased risk as increased time of use.

Corticosteroids: Long been the mainstay of therapy for induction of remission of CD.

- Quite effective over short-term- have numerous adverse effects and infectious risks when used over long-term.
- Risks include: cardiac, renal, skin, gastrointestinal, endocrine, psychiatric, musculoskeletal, immunologic and ophthalmic complications. Particularly important in children is corticosteroid-induced growth suppression.
- High dose and long-term Prednisone use has been associated with increased mortality. This is why it is so important to use other medications to control symptoms over the long-term.
- Infectious risks are particularly important as corticosteroids have been independently associated severe infections in the IBD population. Increased herpes zoster risk and over 3-fold increased pneumonia risk in IBD patients.
- Dose-dependent increase in infections associated with corticosteroid use.
- Prednisone use has also been associated with increased mortality.

Tysabri: Used for induction and maintenance of remission in patients with CD.

- **Side effects** can include rash, shortness of breath, nausea, and liver abnormalities.
- A serious brain infection called PML (progressive multifocal leukoencephalopathy) can occur with tysabri. This infection is due to JC virus exposure. Your doctor will check whether you have been exposed to this virus prior to starting the medication. The risk is 1/100 in those exposed, but there is not increased risk in those without prior exposure.

CONCLUSION

While there are numerous potential risks associated with the medications to treat UC, their chance in occurring is fairly low and they are likely to have a beneficial effect.