POINT OF VIEW

Crossover Indications: Threading the Needle Between Old and New

Judy Murphy, PhD
Director, Science & Medicine

November 14, 2019

In the age of gene therapy and personalized medicine, it may seem like treatments are becoming hyper-specific for each disease, or even for individual patients. However, biomedical research also takes advantage of the fact that our bodies are comprised of cellular systems and biochemical pathways that are constantly interacting. **Crossing an established product over into a new therapeutic area is an opportunity for the delivery of safe medicines to more patients, and marketers have a critical role in threading the needle between what is "old" and "new" in such a crossover indication.**

In fact marketers in this crossover situation may face unique challenges not encountered in the marketing of a product starting de novo. While there is a challenge of addressing misconceptions surrounding an established product, there are several advantages a marketer can leverage when gaining a new indication for an existing product on the market:

- A safety profile may be well-established (although adverse events [AEs] could be different between indications).
- A product with established real-world safety data at the time of launch for a new indication may have more rapid uptake than a completely novel molecule.
- Hospitals and pharmacies may have an established supply of product or fulfillment processes for supply with manufacturers, further increasing the likelihood of prescription.
- Payers may have established protocols for reimbursement.

Altogether, this can lead to faster treatment of patients with medications they urgently need. This all depends, of course, on ensuring that healthcare professionals know enough about the product to consider prescribing it in the first place. A product that has only been used by certain specialists will need to be marketed to an entirely new specialty group for a new indication (if outside of the original therapeutic area). However, this doesn't mean starting from scratch; there are key steps than can be taken to ensure product establishment in a new therapeutic space.

3 Key Steps to Establish Product Leadership in a New Therapeutic Space

1. Leverage established networks of thought leaders to help educate and inform prescribers for the new indication.
2. While messaging to specialists for each indication will differ in some respects, key insights or case studies can be shared across brand teams to avoid duplication of efforts.
3. A strategy for messaging to referring physicians (eg, primary care providers) could be aligned between the 2 indications to streamline the patient journey to a specialist, as well as familiarize new prescribers with the expected safety concerns and how to avoid them.

A Brief History of Crossover Treatment Approaches

While several commonly prescribed drugs have been approved for conditions that share similar pathophysiologic mechanisms, below we've examined the history of multiple sclerosis and oncology treatments to better understand the scientific story behind how a drug can be used to treat seemingly disparate diseases.

1970s

Pathophysiology of MS was not understood clearly

- Suspected that a defect in the immune system was involved in MS, and that by destroying a patient's immune system, symptoms may improve.
- Physicians began using cancer chemotherapy drugs, such as methotrexate and cyclophosphamide, to treat MS. This approach, termed "intensive immunosuppression," had clinical benefit in patients with MS but was associated with toxicities, such as hair loss and nausea, that are expected from chemotherapy.

1990s

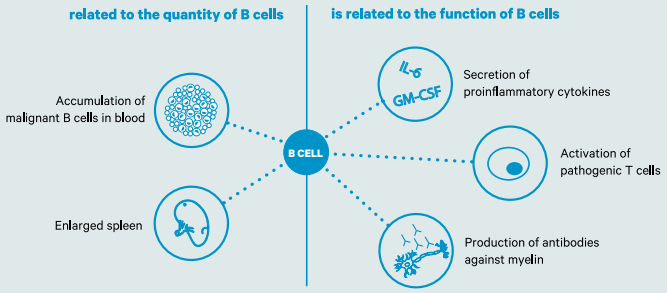
More knowledge of MS and the immune system is accrued, and the technology to develop novel drug classes rapidly advances

- A new type of immune-based therapy, which is much less toxic than hard-hitting immunosuppressive chemotherapies and can be taken long term, is approved for MS (interferon-beta) in 1996.
- Now sold under multiple trade names, interferon-beta continues to be a standard of care for MS and is not approved for any other diseases.

2019

A drug approved in oncology proves more efficacious in MS than an existing MS treatment

- A treatment for chronic lymphocytic leukemia (CLL) was recently investigated in MS, and the results were presented at ECTRIMS in 2019. It reduced MS relapse rates and disability progression more effectively than a product indicated for MS which was already on the market for years. The company plans to file the drug for approval in MS this year; however, it will carry a different brand name.
- The use of drugs in the hematology/oncology field to treat MS is intuitive when MOA is considered. CLL is caused by B cells with dysregulated proliferation; the pathophysiology of MS is associated with production of self-reactive antibodies by B cells (figure to the left). Thus, by targeting B cells, a drug can treat these unrelated disorders caused by the same cell type.



B cells are a target for CLL and MS, but for different reasons.
A) Symptoms of CLL are caused by immune dysfunction due to excessive B Cells in the blood and immune system organs.
B) Antibodies produced by B cells lead to the destruction of the protective myelin sheath in the nervous system of patients with MS.
A drug that targets CD20, which is expressed only on B cells, can treat both conditions.

Looking Ahead

It seems that in the near future, this crossover trend will continue to be an active area of investigation and interest. Preclinical studies have suggested that CAR T-cell therapy, currently only approved for leukemia and lymphoma, could also be used to treat autoimmune diseases. Stem cell transplant, a procedure with curative potential for certain hematologic malignancies, was recently shown to be effective for treating MS.

Advancements in science and medicine can lead to divergence or convergence, or both, of therapies for diseases that have unique causes and symptoms. At Evoke, we partner with our clients to ensure they have the tools necessary to tackle these marketing challenges.