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Proactive risk reduction

— by a gastroenterology pharmacist

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Patients who suffer from inflammatory bowel disease are often prescribed high risk, immunosuppressant medicines. This article describes a pharmacy-led service to help reduce the risk associated with these drugs and improve patient safety

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Paper-based blood results no longer need to be checked by pharmacists at the IBD clinic in Barts and the London NHS Trust

Immunosuppressant drugs, such as those used to treat inflammatory bowel disease (IBD), pose a significant risk to patients in terms of potential side effects and need regular blood monitoring. Pharmacists are experts in medicines, so what can they do to help reduce this risk?

The pharmacy department at Barts and The London NHS Trust is implementing several initiatives to reduce the risk of patient harm associated with the use of medicines. One such initiative, a pharmacy-led drug monitoring service, aims to reduce the risks associated with the prescription of immunosuppressant drugs by the trust's gastroenterology clinics.

Background

The pharmacy-led service was established in 2001 for patients requiring immuno-suppressants for IBD. The need for the service was identified by local GPs, who were often required to prescribe immuno-suppressant drugs to IBD patients, without the implementation of shared care guidelines in place. This posed a significant risk to patients.

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IBD treatment IBD consists of ulcerative colitis and Crohn's disease — both of which rely on drug treatment as the backbone of disease management. Strategies for treating IBD are constantly evolving, due to the many new biological agents under investigation.

First-line drug therapy currently involves the use of aminosalicylates (eg, mesalazine) and corticosteroids. Patients who fail to respond to these treatments may benefit from immunosuppressant drugs such as azathioprine, mercaptopurine, methotrexate and ciclosporin.

All of these drugs require blood monitoring to allow early identification of potentially harmful side effects such as liver damage or myelosuppression.

Structure of the clinic A pharmacy-led drug monitoring service is operated at both of the trust's IBD clinics; one at St Bartholomew's Hospital and the other at the Royal London Hospital. One pharmacist is employed at each site to see patients from several consultants.

All patients who are prescribed immuno-suppressant drugs have a consultation with the pharmacist. In addition, some patients are referred to the service by the consultant if he or she is suffering from drug-related problems.

The types of patients that are typically seen by the pharmacist, either routinely or after referral, are outlined in Panel 1.

Function of the service

The pharmacist consultation either occurs immediately after the consultant appointment or instead of it, if the consultant deems the patient to be clinically stable.

Initial assessment The pharmacist begins by taking a full medication history from the patient, to identify and address any potential drug interactions. This provides an

Panel 1: Patients seen by the pharmacist in the clinic

The pharmacist will consult with all patients in the gastroenterology clinic who:

- Start immunosuppressant therapy
- Require blood monitoring for immunosuppressant therapy
- Have problems with drug compliance
- Suffer from drug-related side effects
- Have the dose of a drug changed
- Have the type of drug treatment changed
- Are being considered for a change of dose or drug choice

opportunity to suggest changes to regular medicines and identify any barriers to compliance. Any proposed changes are discussed with the consultant before implementation.

All patients are counselled on newly prescribed medicines, including the potential benefits and risks. Verbal and written information is provided, along with the opportunity to ask questions.

Follow-up appointments Provided the patient's condition is stable, the consultant or pharmacist will see most patients at three-monthly follow up appointments. Therefore, it is essential that the pharmacist finds out if the patient's clinical symptoms are deteriorating during the consultation. This requires appropriate questioning about:

- Stool frequency
- Stool consistency — including the presence of blood or mucus
- The presence and degree of any abdominal pain

If clinical deterioration or a new symptom is detected, the pharmacist informs the consultant or registrar and a plan is established.

Follow-up appointments also provide the opportunity to reiterate advice, discuss whether a patient is tolerating a medicine and address any barriers to compliance.

Blood monitoring For all patients taking drug therapy that requires regular blood monitoring, the necessary tests are ordered by the pharmacist during the consultation. The results are checked the following day against agreed guidelines. Any problems identified are discussed with the consultant to determine an appropriate course of action (eg, dose reduction).

The blood monitoring system has developed considerably since the service was started. The manual search of computer- and paper-based results has been replaced by an in-house, computerised monitoring database, into which pathology results are automatically fed. The database then identifies patients with an "out-of-range" result, or who are overdue for a blood test.

For example, the system would highlight a patient taking methotrexate as a potential problem if his or her results show:

- Haemoglobin < 10 g/dl
- White blood cells < 4 x 10^9 units/L
- Platelets < 150 x 10^9 units/L
- Alanine aminotransferase > 80 iu/L
- Creatinine > 150 micromol/L

The database includes essential tests for each drug (eg, full blood count, urea and electrolytes, and liver function tests) and also allows the parameters for each drug and test to be individually set and adjusted when necessary. For example, if a patient is suspected to be suffering from drug-induced leucopenia, the specified frequency for blood monitoring can be increased.

A monitoring booklet is provided to record all relevant blood results. Patients are encouraged to bring the booklet to each appointment so that it can be updated. This booklet is a useful reference for other healthcare professionals involved in the patient's care, and facilitates the communication of blood test results to the GP.

Communication All patients who are highlighted by the database are reviewed by the pharmacist, who suggests an intervention (eg, dose reduction, repeat blood test) to the consultant. Once agreed, the suggestion is communicated by letter to the patient and the patient's GP. Secretarial support staff ensure that all letters are sent promptly.

One of the main aims of this service is to improve communication between primary and secondary care. Therefore, standard documents have been produced following a consultation with local GPs to determine what information is required when a patient is started on immunosuppressant therapy.

A letter is sent to the GP after every appointment (including follow-up appointments) and whenever a patient is two weeks overdue for a blood test.

Shared care guidance The responsibilities of all parties, including the consultant, pharmacist, GP and patient, are outlined in shared care guidelines.

Pharmacists working at Tower Hamlets Primary Care Trust helped to develop these guidelines. The PCT monitors the service by auditing the information received in primary care, and obtaining feedback from GPs.

The guidance has allowed GPs to issue prescriptions with the confidence that the patient is being adequately monitored.

Benefits of the service

Having a pharmacist at the clinic provides easy access for patients and staff to information on:

- Drug choice
- Dosage recommendations
- Appropriate monitoring schedules
- Management of actual and potential drug interactions

Skill mix Introducing a pharmacist into the IBD clinic has improved the staff skill mix and enabled consultants to prioritise time towards patients with greater clinical need. The pharmacist concentrates on patients who are clinically stable or have drug-related problems. Patients are encouraged to contact the pharmacist if he or she experiences side effects or has any concerns about the medication. Therefore, access to care is improved for all IBD patients.

Efficiency The development of the drug monitoring database has ensured that abnormal test results are acted upon promptly, reducing the risk of patients suffering adverse drug effects. The database makes the process of identifying these patients more efficient. Previously, these patients could not be identified "at a glance", which potentially resulted in patients receiving medicines without adequate monitoring.

Future developments

The role of the IBD pharmacist at Barts and The London NHS Trust is likely to evolve with the introduction of supplementary and independent prescribing. Currently, all dose changes must be confirmed with the consultant, despite no additional input being provided in most cases. Therefore, clinical management plans may be developed for individual patients to allow supplementary prescribers to make decisions about drug treatment without always having to involve the consultant.

Until recently, there has been little need for supplementary prescribing because the consultant worked closely with the pharmacist. However, as the number of referrals to the service has increased, this need has grown. It may be possible to adopt the framework used by the rheumatology directorate, in which supplementary prescribers share responsibility with consultants for optimising the dose of immunosuppressant drugs.

There may also be scope for a pharmacy technician role within the drug monitoring clinic. This could include managing the drug monitoring database and being responsible for acting on "overdue" blood tests.

Summary

Pharmacists play a key role in ensuring immunosuppressant medicines are prescribed and monitored safely, therefore reducing the risk of harm to patients. The pharmacist-led monitoring service has been instrumental in ensuring the trust complies with the National Patient Safety Agency guidance for methotrexate and improves access to pharmaceutical care for IBD patients.

Pharmacists are currently embarking on exciting research opportunities within this clinical area; a role that continues to evolve with support from gastroenterologists.

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