Medication Incidents Involving Immunosuppressants:
A Multi-Incident Analysis

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**OBJECTIVE(S)**

- To identify potential contributing factors and areas of vulnerability towards medication incidents involving immunosuppressant therapies.
- To make recommendations and hope to pave way for future developments in quality improvement initiatives.

**METHOD(S)**

Selected incidents for final analysis:
61 incidents were retrieved but only 47 incidents met the inclusion criteria and were included in this multi-incident analysis

Analyzed and categorized incidents into three main themes and further divided into subthemes.
Identified potential contributing factors.
Provided recommendations to fill in patient-safety gaps

**RESULT(S)**

**PREVENTION OF EFFECTIVENESS-RELATED MEDICATION INCIDENTS**

**UNDER-DOSING**

Example: Heart transplant patient received a prescription written for mycophenolate 1000 mg twice daily, however the prescription filled mycophenolate 500 mg, twice 2 tablets once daily.

Recommendations:
- Implement rules and policies for high-alert drugs (e.g., documenting calculations on prescriptions during order entry
- Perform independent double checks

**LOOK-AIKE & SOUND-AIKE**

Example: Physician ordered cyclosporine 75 mg once daily but pharmacist filled cyclosporine 25 mg once daily. Nurse notified prior to administering to patient.

Recommendations:
- Utilize electronic prescription order sets
- Independent double-checks
- Request prescribers to list indication on prescriptions
- Gather information from patients during counseling and monitoring of drug therapy

**LOOK-AIKE & SOUND-AIKE**

Example: Patient receiving Rapamune® (sirolimus) in a hospital also received a couple doses of Blast® from a community pharmacy. After missing Blast®, the patient felt ill and consulted the physician. Blast® was switched to leflunomide due to interaction.

Recommendations:
- Discourage regular communication amongst healthcare providers within the patient circle of care whenever changes are made to a patient's drug therapy
- Discourage patients to pick up medications from the same pharmacy for consolidation and comprehensive medication profiles

**CONCLUSION(S)**

As a high-alert drug class, immunosuppressants provide patients with great benefits, but also with equally great risks. The following considerations encompass system-based strategies that may be integrated into daily practice to reduce the risk of medication incidents.

- To ensure look-alike / sound-alike drugs are clearly distinguished from one another; safeguards (e.g. physical dividers) should be integrated into dispensary storage or inventory areas.
- Standardization of procedures will help mitigating errors, such as e-prescribing (to prevent illegible handwriting) and comprehensive documentation (e.g. indication of therapy).
- Independent double checks to verify accuracy of order entry and dispensing, along with patient communication during medication pick-up, can help ensure that the right medication is being dispensed to the right patient.
- Regular follow-up and monitoring is necessary not only for assessing efficacy, safety and tolerability of therapy, but also to create opportunities to update medication lists and patient profiles.

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**REFERENCES**


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