Changeover from Sporanox® to Lozanoc® in adults with cystic fibrosis


Sporanox®

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Lozanoc®

Background

Itraconazole is commonly prescribed for the management of allergic bronchopulmonary aspergillosis (ABPA) to reduce allergen burden.[1] ABPA is a hypersensitivity reaction caused by the fungal species, aspergillus fumigatus, leading to bronchial airway obstruction in the asthma and cystic fibrosis (CF) population.[1] Itraconazole is available in two oral capsule formulations: Sporanox® and Lozanoc®.[2] Lozanoc® has a greater bioavailability compared to Sporanox® (90% vs 55%), therefore Sporanox® 100mg is equivalent to Lozanoc® 50mg.[3] Due to the more favourable pharmacokinetic profile of Lozanoc®, the Queensland Health Medicines Advisory Committee (QHMAC) recommended the replacement of Sporanox® capsules with Lozanoc® capsules for adult patients on the List of Approved Medicines (LAM) for use within Queensland Health hospitals.

Aim

The aim of this study was to evaluate the changeover from Sporanox® to Lozanoc® in adults with CF treated with itraconazole for the management of ABPA.

Methods

A retrospective audit of adult CF patients treated with itraconazole for ABPA at The Prince Charles Hospital Adult Cystic Fibrosis Centre (TPCH ACFC) was conducted in 2016 and 2017. Demographic characteristics, itraconazole dose, serum itraconazole levels (pre- and post-changeover) and use of acid suppression were collected.

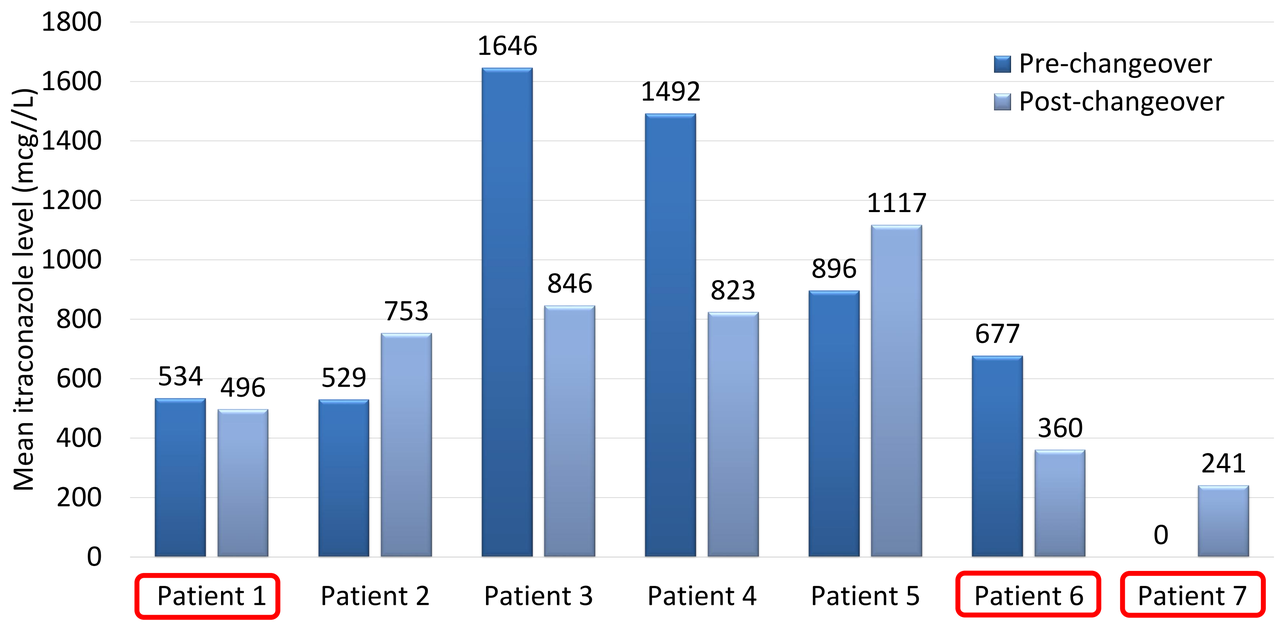
Results

- Nine adult CF patients were on long-term itraconazole therapy for management of ABPA.
- Two patients were excluded from the audit.
  - The first patient was excluded as they were prescribed Sporanox® oral liquid and the second patient was excluded as the patient's care was provided via a regional hospital.
- Table 1 summarises the patient demographics, itraconazole dose and presence of concurrent acid suppression therapy.
- Three of the seven patients (43%) required higher Lozanoc® doses compared to Sporanox® doses based on the manufacturer's dose conversion (highlighted in red in Table 1).
- The remaining four patients were on equi-potent doses of Lozanoc® compared to Sporanox®.

Table 1: Summary of patient demographics

Patient	Age	Gender	Sporanox® dose	Lozanoc® dose	Acid suppression therapy (Y/N)
1	28	M	400mg bd	200mg bd	Y
2	39	M	200mg bd	150mg bd	Y
3	36	M	400mg bd	200mg bd	N
4	35	F	200mg bd	100mg bd	N
5	28	M	300mg bd	150mg bd	N
6	19	M	200mg bd	150mg bd	Y
7	22	M	200mg bd	200mg bd	Y

Figure 1: Mean itraconazole levels pre-changeover vs. post-changeover



- Four of the seven patients (57%) had adequate mean itraconazole levels (>500mcg/L) pre- and post-changeover (Figure 1).
  - Three of these patients were on equi-potent Lozanoc® doses compared to the pre-changeover Sporanox® dose. All three patients were not on concurrent acid suppression therapy.
  - The fourth patient was on a higher Lozanoc® dose compared to Sporanox®. This patient was on concomitant acid suppression therapy pre- and post-changeover.
- Three of the seven patients (43%) had sub-therapeutic mean itraconazole levels post-changeover to Lozanoc® (highlighted in red in Figure 1).
  - All three patients were on concomitant acid suppression.
  - Two out of the three patients required higher Lozanoc® doses compared to the equipotent Sporanox® dose as recommended from the manufacturer.

Conclusion

Four out of seven (57%) CF patients achieved at least one therapeutic itraconazole level after changeover from Sporanox® to Lozanoc®. Therefore, Lozanoc® appears to be a satisfactory itraconazole formulation in adult CF patients requiring azole therapy for management of ABPA. However, the improved bioavailability of Lozanoc® compared to Sporanox® stated by the manufacturer of Sporanox® and Lozanoc® was not observed in the CF patients.

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References

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