PNEUMOCYSTIS CARINII PNEUMONIA PREVENTION IN LUNG TRANSPLANTATION: IS ATOVAQUONE EFFECTIVE?

M. Bonnet¹, C. Guenée¹, G. Dauriat², C. Tesmoingt¹
¹ Pharmacie, ²Pneumologie, Hôpital Bichat – Claude Bernard, Paris

BACKGROUND

Pneumocystis carinii pneumoniae (PCP) is an uncommon but severe complication in immunocompromised patients. Few medicines are used to prevent PCP, among which atovaquone is used off-label in patients intolerant to trimethoprim-sulfamethoxazole.

PURPOSE: Compare the effectiveness of TMP-SMZ and atovaquone for preventing PCP in lung transplant recipients

MATERIALS & METHODS

This single-center, retrospective study included all deceased and alive patients, who received a lung transplant from January 1st, 2007 to August 31st, 2016, and PCP prophylaxis for more than one year.

Inclusion in groups was based on treatment at the time of PCP or death or, failing that, on August 31st, 2017.

Primary endpoint: number of PCP cases in each group

Secondary endpoint: reasons for stopping TMP-SMZ

RESULTS

210 patients were included in the study. No patient directly died from PCP.

Group 1 (n = 160)
- Patient deceased rate: 23%
- Period of transplantation: between 2007 and 2016

No case of PCP

Group 2 (n = 41)
- Patient deceased rate: 37%
- Period of transplantation: between 2007 and 2014

1 patient developed PCP taking atovaquone 750 mg once a week

Group 3 (n = 9)
- Patient deceased rate: 20%
- Period of transplantation: between 2013 and 2016

No case of PCP

Reasons for stopping TMP-SMZ

- Hematological toxicity: 63%
- Allergy: 15%
- Pulmonary toxicity: 3%
- Skin toxicity: 1%
- Liver toxicity: 1%
- Renal toxicity: 1%
- Neurological toxicity: 3%
- Not found: 4%

DISCUSSION & CONCLUSION

This is the first study evaluating atovaquone’s effectiveness in lung transplant recipients, as an alternative for TMP-SMZ intolerant patients. It seems to be effective, considering the unique case of PCP was due to poor compliance. These retrospective results have to be confirmed.

Atovaquone should be saved only for patients with TMP-SMZ intolerance because of its high cost and gastrointestinal effects that may affect treatment adhesion.