

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



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## 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.

### Trimethoprim-Sulfamethoxazole (TMP-SMZ)

-  The first-line treatment to prevent PCP
-  Main side-effect: hematological toxicity

### Atovaquone

- Off-label drug in the prevention of PCP, widely used
- Clinical assessment in several conditions but never in lung transplantation

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

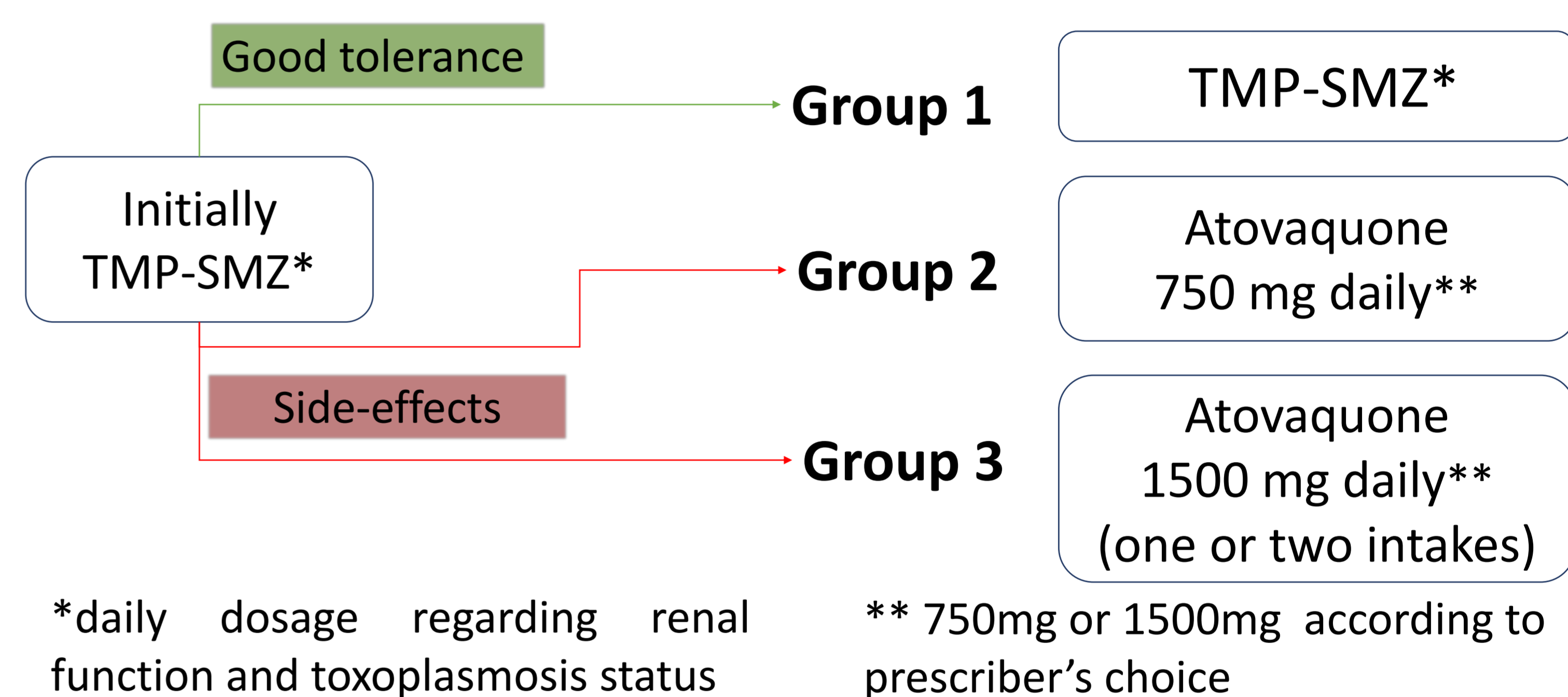
## MATERIALS & METHODS

This single-center, **retrospective study** included all deceased and alive patients, who received a lung transplant from January 1<sup>st</sup>, 2007 to August 31<sup>st</sup>, 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 31<sup>st</sup>, 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

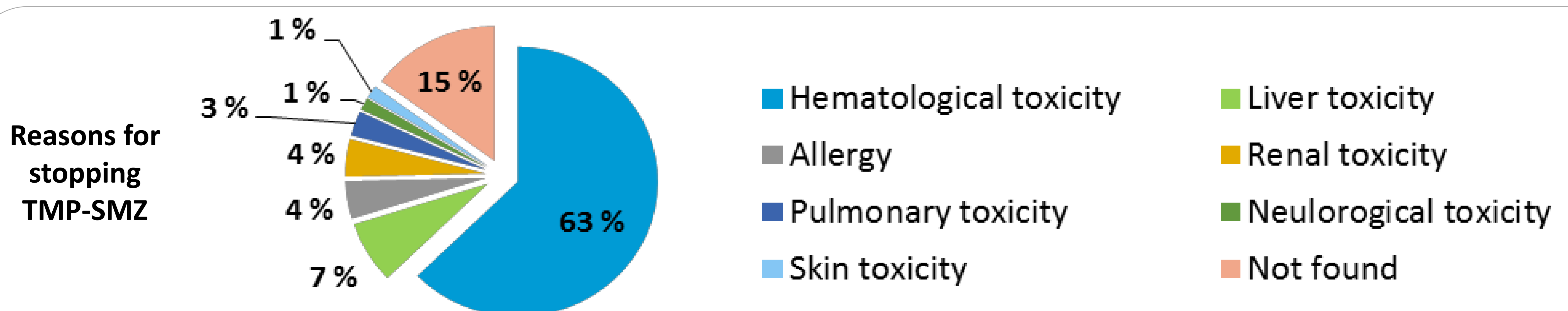


1 patient developed PCP taking atovaquone 750 mg once a week

### Group 3 (n = 9)

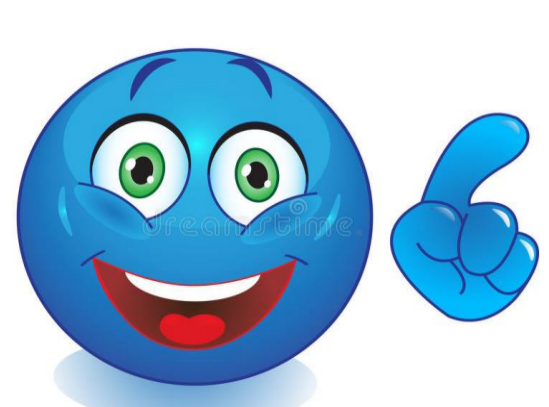
- Patient deceased rate: **20%**
- Period of transplantation: between 2013 and 2016

No case of PCP



## 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.