

# HIGH MORTALITY ASSOCIATED WITH *PNEUMOCYSTIS JIROVECI* PNEUMONIA AMONG NON-HIV INFECTED INDIVIDUALS: PROTECTIVE ROLE OF ADJUVANT CORTICOSTEROID THERAPY

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## INTRODUCTION

- Pneumocystis jiroveci* pneumonia (PJP) remains a source of mortality among immunocompromised hosts, including HIV negative patients
- Clinical features and benefits of corticosteroids as an adjuvant treatment are unclear in this population
- Aim: To characterize clinical features and identify predictors associated with mortality in a cohort of PJP cases.

## METHODS

- Design: retrospective cohort
- Setting: academic tertiary care center
- Timeline: 1995 to 2019
- Population: individuals with laboratory-confirmed (positive culture or antigen test) PJP disease
- Data source: Epic chart review
- Means, standard deviations, frequencies, and percentages were calculated
- Chi squared test and Fishers exact test were used to test for HIV and mortality
- Bivariate and forward, stepwise multivariable logistics regressions were performed to identify predictors of mortality
- Statistical analyses were performed in SAS software

Compared to individuals with HIV, non-HIV PJP patients and absence of corticosteroid as adjuvant therapy increased rates of mechanical ventilation, ICU stay and mortality.

TABLE 1: Clinical features of Pneumocystis jiroveci pneumonia patient cases with HIV and non-HIV status.

	HIV (n=43)	Non-HIV (n=28)	p-value
Mean age (±SD, years)	49.12 ± 10.97	62.07 ± 13.66	<0.001
Male sex (%)	38 (88.37)	15 (53.57)	0.001
white (%)	31 (72.09)	23 (82.14)	0.853
Non-white Hispanic (%)	11.5 (25.58)	4 (14.29)	0.009
Mean Hemoglobin (±SD, mg/dL)	12.98 ± 2.25	10.9 ± 2.24	0.001
Mean, Platelets (±SD, mg/dL)	271.36 ± 127.86	141.28 ± 85.13	<0.001
Corticosteroids (%)	37 (86.05)	20 (71.43)	0.13
ICU Admission (%)	10 (23.26)	22 (78.57)	<0.001
Mortality (%)	7 (16.28)	20 (71.43)	<0.001

## Results

- Common underlying conditions in HIV negative patients were hematologic malignancies (28.6%), autoimmune disorders (25.9%), and organ transplants (10.7%).
- Mortality was significantly associated with HIV negative status (OR 11.0, 95% CI: 1.5-81.3, p<0.018) and absence of corticosteroids for adjuvant treatment (OR 13.8, 95% CI: 1.2-159.2, p<0.036).

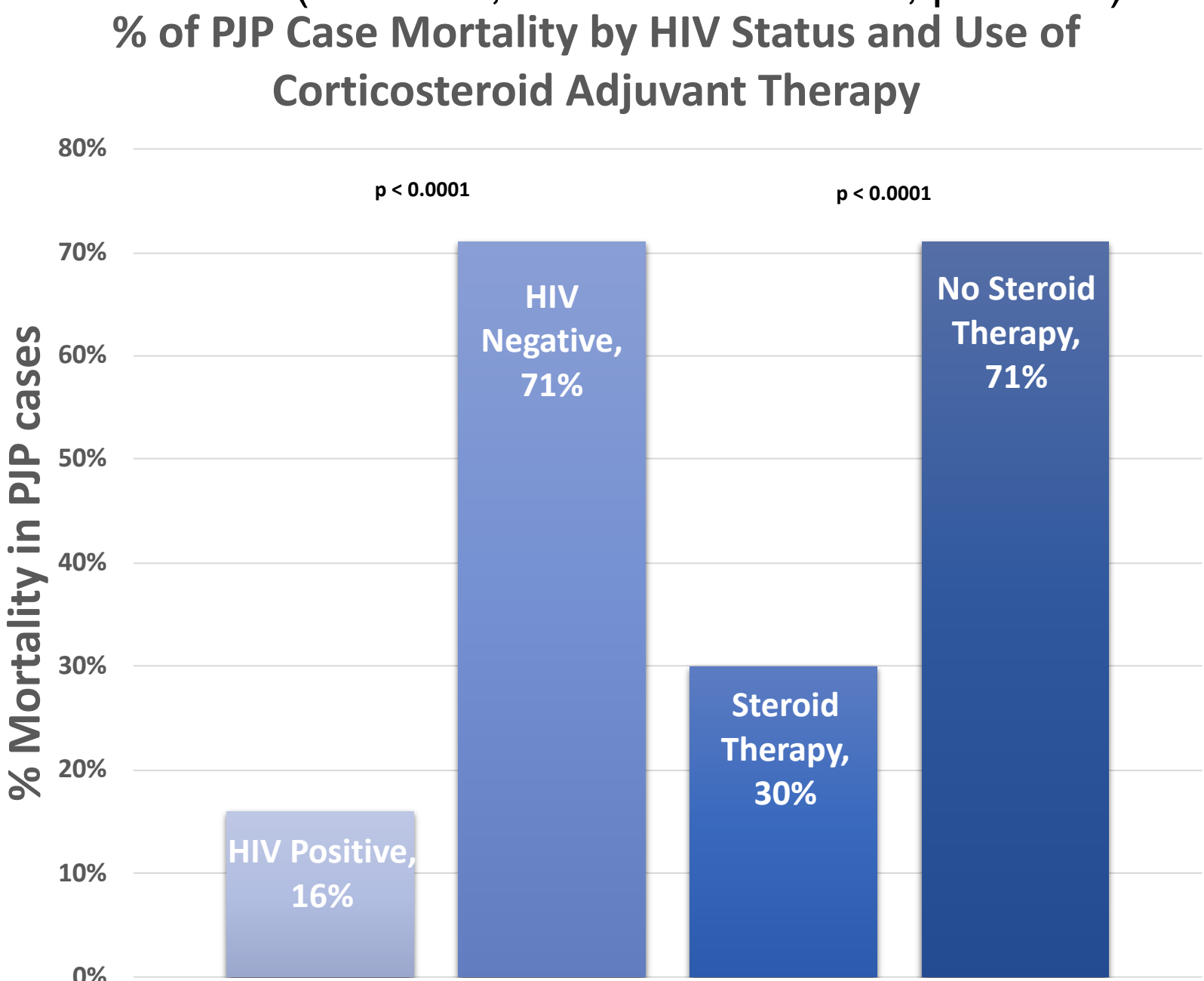


Figure 1. Proportion of Mortality in PJP cases by HIV Status and Corticosteroids

## Conclusions

- Difference in mortality in PJP is attributed to the severity of presentation, comorbidities, and multiorgan injury.
- Further studies are needed on prevention, early diagnosis, and management of PJP among HIV negative patients