



Association between CD4+ Cell Counts and Condyloma Acuminatum in *Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS)* Patients in Lampung Province Hospital



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Introduction

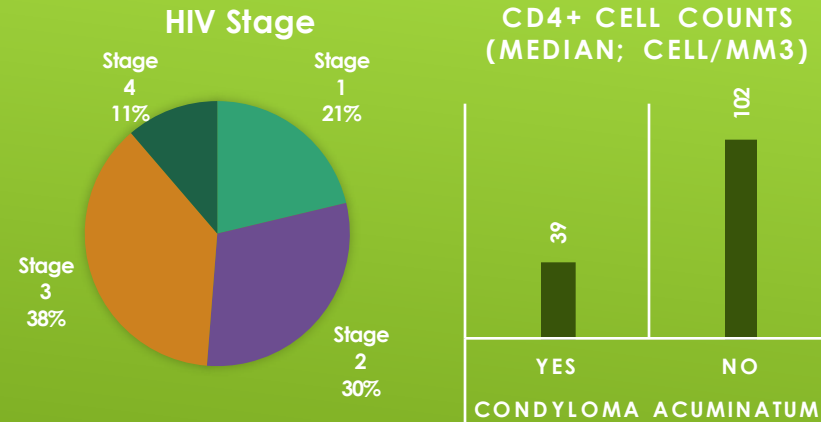
Sexually transmitted infections (STIs), including *Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS)* infections, are a major problem in developing countries. Condyloma acuminatum is one of STIs caused by human papillomavirus (HPV). Several studies have reported prevalence of condyloma acuminatum among HIV-infected patients was higher than HIV-uninfected patients. CD4+ cell counts are used to determine the immunity of HIV/AIDS patients.

Objectives

This study is aimed to determine the association between CD4+ cell counts and condyloma acuminatum in *Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS)* patients in Lampung Province Hospital.

Methods

This study used an analytic observational with case control design among HIV/AIDS patients in Lampung Province Hospital. Sampling method was implemented as consecutive sampling techniques. The subjects consisted of 80 HIV/AIDS patients with ratio of case and control group was 1:4 (16:64 patients). The data was collected from medical records. Analysis data used Fisher Exact test and Mann Whitney test



Results

There were 80 patients meet the inclusion criteria divided into condyloma acuminatum groups (16 patients) and without condyloma acuminatum group (64 patients). The characteristics of subjects were consisted of 78,8% male and 21,3% female; 33,03+9,5 (16-67) years old; heterosexual were 48,8% and homosexual/bisexual were 51,2%. Clinical stage of HIV/AIDS were 21,3% in stage I, 30% in stage II, 37,5% in stage III, and 11,3% in stage IV. Statistical analysis using Mann-Whitney test showed the differences between the CD4+ cell counts in the condyloma acuminatum groups and without condyloma acuminatum group ($p=0.001$). Chi-square also showed association between the incidence of condyloma acuminatum and late stage of HIV/AIDS ($p=0.001$; $RR=10,920$ with $95\%CI=2.285-52.194$).

| Group | Condyloma Acuminatum | | p value |
|---------------------------------------------------------------------------|----------------------|------------|----------------------------------|
| | Yes | No | |
| CD4+ cell counts grouping into stage | | | |
| • 3 rd and 4 th stage (< 200 cell/mm ³) | 14 (17.5%) | 25 (31.2%) | 0.001# (RR=10.920; 2,285-52,194) |
| • 1 st and 2 nd stage (≥ 200 cell/mm ³) | 2 (2.5%) | 39 (48.8%) | |

Conclusion

There was a difference between CD4+ cell counts and condyloma acuminatum in HIV/AIDS patients. HIV patients in late stage has ten times risk for the incidence condyloma acuminatum compared to early stage in HIV/AIDS patients at Lampung Province Hospital .

References

1. Patel H, Wagner M, Singhal P, Kothari S. Systematic review of the incidence and prevalence of genital warts. BMC Infect Dis. 2013;13(39) :1-14.
2. Molina AA, Valencia JFH, Lamoyi E, Paredes AC, Lizano M. Role of innate immunity against human papillomavirus (HPV) infections and effect of adjuvants in promoting specific immune response. Viruses. 2013;5:2624-42.
3. De Camargo CC, Tasca KI, Mendes MB, Miot HA, De Souza LDR. Prevalence of anogenital warts in men with HIV/AIDS and associated factors. The Open AIDS Journal. 2014; 8: 25-30.