



**Buku Prosiding  
ABSTRAK**

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## Abstrak Seri 8

**Local Humoral Adaptive Immune Response Influence On The Occurrence Of Infertility In Women Infertile Couple With Non-Specific Vaginitis Due To Cross Reaction Between Staphylococcus Aureus Snd Spermatozoa****Muhammad Anas, Aulanni'am, I Wayan Arsana Wiyasa, Teguh Wahyu Sardjono, Sumarno**

The prevalence of infertile couples varies between 10-40% in Indonesia 17%, East Java 26%, Surabaya 23%, Malang 18% and Mojokerto 25%. Men factors hand of approximately 40%, the rest female factors. The cause of idiopathic infertility approximately 10-30% and allegedly much related to immunological disorders and previous infections. Non-specific vaginitis (VNS) occurring at women infertile couples due to polymicrobial. *Staphylococcus aureus* (*S. aureus*) contributes by 21%.

The aim of research to prove cross reaction between *S. aureus* with spermatozoa.

Research conducted by biocomputation and invitro.

In biocomputation research obtained five main protein homolog between protein of human spermatozoa and protein of *S. aureus*. Homologous sequences obtained by 26-44% and homologous structures ranging from 0.314, 0.332, 4.99, 6.16, and 26.40 Å. Analysis of antigenicity and epitope's expression confirmed that they allow it to be recognized by the same antibodies.

In invitro study with 2 isolates of *S. aureus* which isolate from fertile female partner and infertile female partner. The humoral adaptive immune response occurs in fertile and infertile female partner experiencing VNS due to *S. aureus*. The molecular weight (MW) of *S. aureus*'s Omp (outer membrane protein) of fertile isolates that was recognized by the s-IgA mucus of the uterine cervix of fertile female partner was 52 kDa while the *S. aureus*'s Omp of infertile isolates was recognized by the s-IgA mucus of the uterine cervix of infertile female partner was 49 kDa. Both of these proteins immunized into mice so that the resulting IgG-fertile and IgG-infertile. Obtained cross reaction between IgG-fertile and IgG-infertile to human sperm's Omp. MW of human sperm's Omp that recognized by IgG-fertile is 43 to 63 kDa and recognized by IgG-infertile is 23 to 58 kDa. Human sperm's Omp that cross-reacting with *S. aureus*'s Omp is located in the head, neck and tail sperm. Magnitude response of cross reaction between human sperm's Omp with IgG-fertile significantly different with IgG-infertile,  $p = 0.000$ .

As conclusion that VNS due to *S. aureus* may trigger an immune response with s-IgA antibodies produced cross-reacting with human sperm's Omp.

**Keywords:** Infertility, VNS, *S. aureus*, Omp, s-IgA, Sperm.