

**s-IgA uterine cervix secretion  
in women of infertile couples  
recognized microorganism  
spectrum of nonspecific  
vaginitis**



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# INTRODUCTION

The **incidence of infertility** is varies ~ 7-30%.

The Indonesian CBS ~ **primary infertility** was **8%, 12% & 12%** (Indonesia, East Java & Mojokerto)(2005 & 2010).

Female-associated factors are responsible for 60–70% of infertility.

The most common cause of symptomatic vaginitis in women (**40–45%**) is **nonspecific vaginitis**.

The presence of **immune reaction against spermatozoa** contributes to as much as **2 – 30% of infertility**.

We explore **bacterial wall** constituent **protein profiles** that interact with immunoglobulin produced by infected women in infertile couples.

# RESEARCH'S RESULT

## **Setting:**

**Location:** Infertility Outpatient Islamic Hospital of Hasanah Muhammadiyah, Mojokerto, East Java, Indonesia.

**Duration:** 1.5 years ( July 2011- December 2012).

# Demographic Data on Women of Infertile Couple with VNS

<b>Parameters</b>	<b><math>\bar{x} \pm SD</math></b>	<b>min - max</b>
<b>Age (Husband)</b>	32.9 ± 4.8	23 - 45
<b>Age (Wife)</b>	28.1 ± 3.8	21 – 36
<b>Time to Marriage (years)</b>	4.0 ± 2.2	1 – 11
<b>Body Weight (kg)</b>	51.5 ± 6.8	34 – 66
<b>Body Height (cm)</b>	154.0 ± 3.8	146 – 165
<b>BMI</b>	21.7 ± 3.1	15.5 - 28.6
<b>Education</b>	<b>Husband</b>	<b>Wife</b>
<b>Elementary School</b>	1 (5%)	0 (0%)
<b>Yunior High School</b>	3 (16%)	2 (11%)
<b>Senior High School</b>	9 (47%)	8 (42%)
<b>Diploma</b>	2 (11%)	3 (16%)
<b>Graduate</b>	4 (21%)	6 (32%)
<b>Infertility type</b>	<b>Primer</b>	16 (84%)
	<b>Secunder</b>	3 (16%)

# Bacterial pattern Vaginal secretions of women infertile couples

No	Microorganism	$\Sigma$	%	$\Sigma$	%
1	<i>S. aureus</i>	4	21	4	27
2	<i>E. coli</i>	4	21	4	27
3	<i>S. epidermidis</i>	3	16	3	20
4	<i>C. albican</i>	3	16		
5	<i>S. faecalis</i>	2	11	2	13
6	<i>S. <math>\alpha</math> haemoliticus</i>	2	11	2	13
7	<i>Not Growth</i>	1	5		
	<b>T o t a l</b>	<b>19</b>	<b>100</b>	<b>15</b>	<b>100</b>

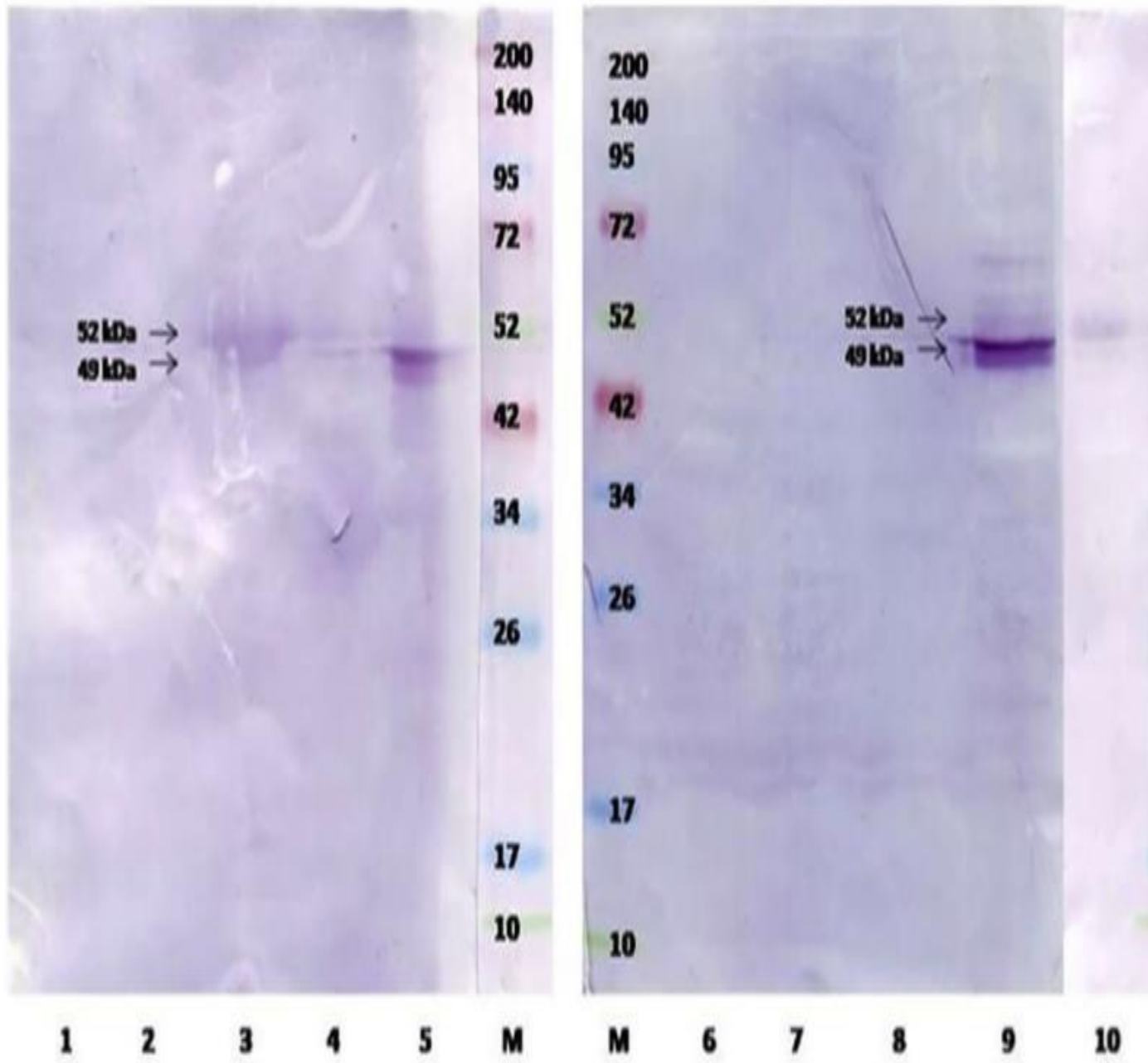
# Antibiotic Sensitivity Test

Sampel	Bakteri / Antibiotik	AMP	AML	AMC	GN	CTX	CRO	75	SXT	TE	C	FOS	CIP	Da
M1	<i>E. coli</i>													
M3	<i>E. coli</i>													
M4	<i>E. coli</i>													
M6	<i>E. coli</i>													
M2	<i>S. aureus</i>													
M9	<i>S. aureus</i>													
M10	<i>S. aureus</i>													
M19	<i>S. aureus</i>													
M7	<i>S. epidermidis</i>													
M8	<i>S. epidermidis</i>													
M18	<i>S. epidermidis</i>													
M5	<i>S. fecalis</i>													
M12	<i>S. fecalis</i>													
M11	<i>Streptococcus α-H</i>													
M13	<i>Streptococcus α-H</i>													

AMP : Ampicillin; AML : Amoxicillin; AMC : Amoxicillin + Clavulanat; GN : Gentamycin; CTX : Cefotaxime; CRO : Ceftriaxone; 75 : Cefoperazone; SXT : Cotrimoxazole; Te : Tetracyclin; C : Chloramphenicol; FOS : Fosfomycin; Cip : Ciprofloxacin; Da : Clindamycin

# Clinical Data of Infertile Couple

Smpl	Bacteria	FA	HSG	SA	Pregnant
M14	<b><i>Candida abicans</i></b>	No	+/+	N	No
M16	<b><i>Candida abicans</i></b>	No	+/+	N	Yes
M17	<b><i>Candida abicans</i></b>	No	+/+, hsds	N	Yes
M1	<b><i>E.Coli</i></b>	Yes	+/+, hss	OAT	No
M3	<b><i>E.Coli</i></b>	Yes	+/+	EOAT	No
M4	<b><i>E.Coli</i></b>	No	+/+	O	No
M6	<b><i>E.Coli</i></b>	Yes	+/+	A	No
M2	<b><i>S. aureus</i></b>	Yes	+/+	AZOO	No
M9	<b><i>S. aureus</i></b>	Yes	+/+, inc cx, r tb	N	No
M10	<b><i>S. aureus</i></b>	Yes	+/+	A	Yes
M19	<b><i>S. aureus</i></b>	No	+/+	N	No
M5	<b><i>S. fecalis</i></b>	No	+/+, cx "-", hss	EOAT	No
M12	<b><i>S. fecalis</i></b>	Yes	-/+, hss	AT	No
M7	<b><i>S. epidermidis</i></b>	Yes	+/-, r tb	N	No
M8	<b><i>S. epidermidis</i></b>	No	+/-	N	Yes
M18	<b><i>S. epidermidis</i></b>	Yes	sis +	T	No
M11	<b><i>S α – haemoliticus</i></b>	Yes	+/+	O	Yes
M13	<b><i>S α – haemoliticus</i></b>	Yes	+/+	EOAT	No
M15	<b><i>Not Growth</i></b>	Yes	+/+	T	No <sup>7</sup>



1: *S. a-haemolyticus* M1  
 2: *E. Coli* M4,  
**3: *S. aureus* M10,**  
 4: *S. epidermidis* M18  
**5: *S. aureus* M19,**  
 which blotted with **s-IgA cervix uteri M10.**

6: *E. coli* M4,  
 7: *S. a-haemolyticus* M11  
 8: *S. epidermidis* M18  
**9: *S. aureus* M19**  
**10: *S. aureus* M10,**  
 which blotted with **s-IgA cervix uteri M19.**  
 M: protein marker.

**Figure The results of western blot of bacterial sample OMP**



# Summary:

Based on the results of this study **to determine the fertility disorder** in infertile couples with the women of infertile couples who **suffer nonspecific vaginitis due to *S. aureus***, further research needs to **be developed on the existence of cross reaction** between *S. aureus* bacteria and **male spermatozoa** of the infertile partner.

One of the bacteria species ***S. aureus*** that infects the vagina and causes nonspecific vaginitis **can provoke an adaptive immune response by producing s-IgA.**

Difference MW of OMP *S. aureus* can stimulate immune response among women of infertile couples.

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**Thank  
You**

