SpermMar IgA Test

Test for determination of Sperm Antibodies

A qualitative latex test for detection of Sperm Antibodies of the IgA class.

**Summary and Explanation**

The presence of sperm antibodies reacting with antigens on the spermatozoon is considered to have important implications for immunological infertility (1-4, 6, 15). These antibodies are found in approximately 8% of infertile women (7). Antibodies belong to different immunoglobulin classes, but only those of the IgG and the IgA class are clinically relevant (2). The full display of clonotypic effects and a very close relationship of antibodies on sperm or in serum with the SpermMar test. Antibodies of the IgA class, which are mainly teratozoospermic, rarely occur without antibodies of the IgG class (2); but there may be more cases of IgA class antibodies without IgG class antibodies or vice versa. The presence of IgA class antibodies in preconception specimens is very important. Occasionally, IgA antibodies alone may be detected. The high sensitivity of the SpermMar test is due to the diagnosis of both IgA and IgG class antibodies (5).

**The indirect SpermMar test for the detection of sperm antibodies**

1. Allow the reagent and seminal plasma or cervical mucus to come to room temperature.
2. Incubate 100 microlitres of the suspension of motile donor spermatozoa with 100 microlitres of inactivated seminal plasma or cervical mucus.
3. Mix the sample and the Latex reagent 5 times with the microcapillary pipette. Place tip of finger over the top of the bulb. Squeeze the bulb until both halves of the bulb touch each other and expel the liquid from the pipette.
4. Read the result as described for the direct SpermMar test.

**Reagents**

Direct reagent is supplied in each package of SpermMar test.

SpermMar Latex (purified suspension of polyvalent latex particles) of approximately 3 cm in diameter coated with monoclonal antihuman anti-IgA serum. Mix well before use. The reagent is stable in the refrigerator for a period of at least 6 months from date of manufacturing. SpermMar reagent is preserved with sodium azide at a final concentration of 0.09%.

**SpermMar Latex Particles**

The SpermMar latex particles are ready to use, however, they should be thoroughly mixed before use to provide a homogeneous suspension.

**Sperm Storage and Preparation**

Semen collection by masturbation is preferred. Where parturial circumstances discourage collection by masturbation, specific plastic containers are available for semen collection (Male Fertilet Pac). Ordinaries condoms cannot be used for semen collection because they may interfere with the motility and stability of the spermatozoa. Semen should be examined within 1 hour after ejaculation. Cervical mucus can be aspirated by a suction aspiration device designed for this purpose (e.g. Spirella, Microlute or Keypit).

**Warning and Precautions**

- All human, animal or plant material should be considered potentially infectious.
- Handle all specimens as if capable of transmitting HIV or hepatitis. Avoid contact of blood, body fluids and semen with the eyes, mouth or other mucous membranes.
- When using centrifugal force, care should be taken to avoid splashing of droplets of centrifugal fluid.

**Procedure**

1. Allow reagents and specimens to come to room temperature.
2. (Optional step): 10 microlitres of fresh semen
3. (Optional step): Aspiration of SpermMar latex particles

**Direct SpermMar Test for the Detection of Antibodies of the IgA Class**

**Semen collection**

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**Performance Characteristics**

**Direct SpermMar test**

Several hundreds of semen samples have been tested with the direct mixed antiglobulin reaction and the direct SpermMar test for IgA. The results were similar at a 97% of the cases. The SpermMar test identified the reactive SpermMar latex particles and the IgA antibodies are detected by the SpermMar test and IgA reacts with the spermatozoa with the use of the direct mixed antiglobulin reaction (MAR-test) as an addition to routine seminal fluid analysis.

**Indirect SpermMar Test**

Since sperm antibodies of the IgA class are mostly serologically identified by the accessory reactions, they can be precipitated with antigens on spermatozoa, however, the majority of these patients do have sperm antibodies of the IgG class in their serum. Testing for antibodies of the IgG class in seminal plasma or cervical mucus is to be considered supplemental and the clinical meaning of its result has not been established.

**Bibliography**

4. BOETTCHER B, HJORTH T, RUMKE P, SHULMAN S and VYAZOV D: Semen collection by masturbation is preferred. Where parturial circumstances discourage collection by masturbation, specific plastic containers are available for semen collection (Male Fertilet Pac). Ordinaries condoms cannot be used for semen collection because they may interfere with the motility and stability of the spermatozoa. Semen should be examined within 1 hour after ejaculation. Cervical mucus can be aspirated by a suction aspiration device designed for this purpose (e.g. Spirella, Microlute or Keypit).
SpermMar IgG Test

Direct and Indirect Test for Determination of Sperm Antibodies


Kit Contents

1 x SpermMar Latex Particles 7.5 ml
1 x SpermMar Antiserum 0.7 ml

Volume: 0.7 ml.

Volume: 7.5 ml.

Two reagents are supplied in each package of SpermMar test kit: an antiserum against spermatozoa and a latex particle suspension. The test is suitable for the routine screening for IgG antibodies in the human male and female sera. It is an in vitro assay for the determination of the type and intensity of the immunological effect exerted by the antisperm antibodies (1).

METHODS

INDIRECT SPERMMAST-TEST

1. Allow all reagents and specimens to come to room temperature.
2. In the indirect test procedure, agglutination of latex particles is specific for immunoglobulin (Ig) G. Sperm antibodies binding to living spermatozoa may induce an agglutination reaction (2). There are some data indicating IgM to be more strongly related to sperm antibodies than IgG. However, IgG antibody can occur without IgM antibody. Therefore, testing for sperm antibodies should be done as a routine procedure using an IgG and IgM test kit.

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