



SRI VENKATESWARA COLLEGE OF PHARMACY (Autonomous)

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Principal's Message

It gives me immense pleasure that our department of pharmacy practice, Sri Venkateswara College of Pharmacy is releasing its newsletter. The clinical pharmacy activity of our pharmacy practice department has gained strength in the last couple of years with the start of the Pharm.D program and our faculty and students are involved in patient services activities in clinical departments of RVS hospitals, a tertiary care super specialty hospital. It is indeed a matter of great pride and pleasure to share some of our experiences in patient care with every one of you. Practice directions and other documents will be drafted and approved with the assistance of the standards of practice committee. The mandate of the college is to train high-caliber healthcare professionals, offer specialized pharma services to the community, conduct research, offer consultancy services, and participate in health policy formulation. The college has adequate modern facilities to execute its mandate. The faculty and student editorial team deserve special appreciation and offer this newsletter to our beloved chairman and vice chairman.

Dr. D. Jothieswari, Principal,
Sri Venkateswara College of Pharmacy

IN THE CURRENT ISSUE

- **Drug profile**
- **Disease based information**

DRUG PROFILE NEXPLANON

Nexplanon is a long-acting, reversible contraceptive implant used to prevent pregnancy. It is a small, flexible rod about the size of a matchstick that is inserted subdermally (under the skin) in the upper arm. Nexplanon releases the hormone etonogestrel, a synthetic progestin, over a period of up to three years. It is known for its high efficacy and convenience, eliminating the need for daily contraceptive measures.

Uses

Contraception: To prevent pregnancy in women who want a long-term, reversible birth control method.

Mechanism of Action

Nexplanon works through the continuous release of etonogestrel. Its contraceptive effects are achieved through several mechanisms:

Inhibition of Ovulation: Etonogestrel prevents the release of eggs from the ovaries.

Thickening of Cervical Mucus: This makes it more difficult for sperm to enter the uterus and fertilize an egg.

Alteration of Endometrial Lining: It causes changes in the uterine lining, making it less suitable for implantation.

Adverse Drug Reactions:

- Changes in menstrual bleeding patterns (irregular, lighter, heavier, or prolonged bleeding)
- Headache
- Acne
- Breast pain
- Ovarian cysts

Dosing Considerations

Insertion: Nexplanon should be inserted by a trained healthcare provider. It is typically placed under the skin of the inner side of the upper non-dominant arm. The insertion procedure is quick, usually taking only a few minutes, and is done under local anesthesia.

Removal: Removal of Nexplanon should also be performed by a trained healthcare provider and typically takes only a few minutes under local anesthesia.

Limitations of Use:

Not for Use in Certain Conditions: Nexplanon is contraindicated in women with a history of thromboembolic disorders, liver tumors, liver disease, known or suspected breast cancer,

undiagnosed abnormal genital bleeding, or hypersensitivity to any of the components of the implant.

DISEASE-BASED INFORMATIONBABESIOSIS

Introduction

Babesiosis is a tick-borne parasitic disease caused by protozoa of the genus *Babesia*. It is primarily transmitted through the bite of infected *Ixodes scapularis* ticks, commonly known as deer ticks or black-legged ticks. Babesiosis is most prevalent in the northeastern and upper midwestern United States but can occur in other parts of the world. The disease can range from asymptomatic to severe, particularly in immunocompromised individuals.

Causes

Babesiosis is caused by infection with *Babesia* parasites, with *Babesia microti* being the most common species in the United States. The primary mode of transmission is through the bite of an infected tick. Other less common routes of transmission include:

- Blood transfusions from infected donors
- Congenital transmission from mother to fetus

Signs and Symptoms

- Fever
- Chills
- Sweats
- Headache
- Body aches
- Fatigue
- Nausea

Diagnosis

Diagnosis of babesiosis involves several steps:

Clinical Evaluation: Assessment of symptoms and history of tick exposure.

Laboratory Tests:

Blood Smear: Microscopic examination of a Giemsa-stained blood smear to identify *Babesia* parasites within red blood cells.

Polymerase Chain Reaction (PCR): Detection of Babesia DNA in blood samples, which is more sensitive than blood smears.

Treatment

Treatment of babesiosis depends on the severity of the disease and the immune status of the patient:

Mild to Moderate Cases

Combination Therapy: The standard treatment is a combination of atovaquone and azithromycin taken orally for 7-10 days.

Alternative Therapy: Clindamycin and quinine, though associated with more side effects, can be used in certain cases.

Severe Cases

Intravenous (IV) Therapy: For severe cases, especially those with life-threatening complications, IV clindamycin and quinine are recommended.

Exchange Transfusion: In cases of severe hemolytic anemia, exchange transfusion (removal of infected red blood cells and replacement with uninfected donor blood) may be necessary.

Supportive Care: Includes hospitalization, monitoring, and treatment of complications such as ARDS, DIC, and organ failure.

Prevention

Tick Avoidance: Avoiding areas with high tick populations, using insect repellents, wearing protective clothing, and performing tick checks after outdoor activities.

Prompt Tick Removal: Removing ticks promptly and properly to reduce the risk of transmission.

Blood Donation Screening: Ensuring blood donors are screened for Babesia especially in endemic areas.



Suggestions and comments may kindly be sent to the Editorial Board, Department of Pharmacy Practice, SVCOP, Chittoor. Phone: 7729999181 Email: editorsvcopnewsletter@svcop.in