LETTER TO THE EDITOR

Blujepa: A promising step forward in the fight against antibiotic-resistant UTIs

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Madam, With more than 16 million U.S. women impacted each year, Urinary tract infections (UTIs) are common and often recurrent. More than half of women will develop a UTI during their lifetime, and 30% will experience recurrences.[1] A study in California discovered that more than 50% of UTIs were due to antibiotic-resistant bacteria and 13% multi-drug resistant, exacerbating outcomes.[2] Alarming, rising resistance has led to treatment failure, high personal and health care costs evidencing a compelling need for newer and more effective treatments against resistant uropathogens. to mitigate this escalating threat to women's health and wellbeing.

The FDA has approved Blujepa (gepotidacin), a new oral antibiotic for the treatment of uncomplicated urinary tract infections (uUTIs) in women and pediatric patients 12 years of age and older (≥40 kg). It is effective against infections caused by bacteria such as *E. coli, Enterococcus faecalis, Klebsiella pneumonia*. Blujepa, the first oral antibiotic of its class in almost three decades, is an important option for patients with recurrent infections and increasing antibiotic resistance.[3]

Blujepa is a triazaacenaphthylene antibiotic that has novel action on inhibiting bacterial DNA replication by targetting two Type II topoisomerases. It has potent activity against resistant uropathogens *E.Coli, Neisseria gonorrhoeae, and staphylococcus saprophyticus*. Owing to its dual mechanism of action, resistance potential is minimized since mutations in both enzymes are needed to influence susceptibility. Clinical trials revealed Blujepa's safety and efficacy in both uncomplicated UTIs and gonorrhea, even drug-resistant gonorrhea.[1]

In clinical trials with over 3,000 women and teen girls, Blujepa has shown comparable or superior efficacy to nitrofurantoin for treating uncomplicated UTIs (uUTIs). In the Phase III EAGLE-2 trial, Blujepa demonstrated 50.6% therapeutic success vs. 47.0% for nitrofurantoin. EAGLE-3 results were even more statistically significant with Blujepa showing 58.5% success compared to 43.6% for nitrofurantoin. Most frequent reported adverse events were GI in nature, including diarrhoea (16%) and nausea (9%). Serious adverse events were uncommon. These favourable findings resulted in FDA approval for uUTIs in female adults and adolescents (≥12 years, ≥40 kg), providing much-needed therapy in uUTI management.[4]

While Blujepa's good outcomes have been seen in uncomplicated UTIs among female patients, Further research into its efficacy and safety profile in various populations, such as male patients and patients with other complicating medical conditions, will be crucial to gain the most benefit from it. Further research into long-term outcomes and resistance patterns is also necessary to ensure continued efficacy against resistant infections. In addition, Blujepa is also on trial to treat gonorrhea, its broad-spectrum activity activity against antibiotic-resistant organisms might bring about new treatments in combating sexually transmitted diseases

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