Medical-Device Cos Mine Silver In Fight Vs Hospital Bugs

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CHICAGO -(Dow Jones)- In an effort to meet demand for methods to fight tough infections that patients can acquire in hospitals, medical-device companies are turning to a very elemental tool: silver.

The precious metal, long been known for its ability to ward off microbes, already plays a role in health-care facilities, often in wound care, and has also been popping up as an antimicrobial agent in a host of consumer items. But new products recently approved for medical companies Baxter International Inc. (BAX) and C.R. Bard Inc. (BCR) are boosting silver's presence in the device field, and more are planned.

The latest silver-coated technology comes as patients in U.S. hospitals fight well more than a million potentially deadly infections acquired on site each year, including the well-known drug-resistant staph infection MRSA. A Medicare move to cut back on reimbursement to hospitals for such infections is also spurring developments.

"The environment is ripe" for these products, said Camille Farhat, general manager of global infusion systems in Baxter's Medication Delivery business.

Silver doesn't seek out bugs like an ingested antibiotic, but it has a unique ability to repel them and doesn't seem to encourage hard-to-fight mutations. Baxter, Deerfield, Ill., announced in early November that it received U.S. Food and Drug Administration clearance for a needle-less IV connector, called "V-Link with VitalShield", that contains an antimicrobial silver coating. It is the first such device of this kind to use an antimicrobial coating, the company said.

Baxter indicated that more products using this silver technology are on the way, although Farhat declined, for competitive reasons, to offer specifics.

"We do have a lot of plans in other vulnerable areas in the medication- delivery chain," he said. Baxter IV products are part of the company's infusions-systems business, which pulled in $624 million in revenue through the first nine months of this year. Baxter estimates the overall global market for IV sets is worth about $2 billion annually.

Silver Breathing Tube

Baxter's IV announcement came a day after C.R. Bard won FDA approval for a silver-coated breathing tube used for patients on ventilators. The "Agento IC" endotracheal tube is designed to reduce the risk that patients on ventilators more than 24 hours will acquire pneumonia, which is a leading killer among hospital-acquired infections.

Agento IC joins another silver-coated Bard device, the "Bardex IC" foley urinary catheter, which the Murray Hill, N.J., company introduced in 1995. Bard is the top player in the U.S. market for foley catheters, while Agento IC represents the company's first foray into the endotracheal-tube market.

In an emailed statement, Bard said it is looking into the use of its silver technologies, and also other antimicrobial technologies, in other product areas. "We have not publicly discussed specific products, but we are evaluating the use in all our implanted products that remain in the body for more than 24 hours," the company said.

Bard's Bardex IC device uses technology licensed from Swedish company Bactiguard AB, while Baxter is working with a silver nanotechnology developed by small private company AcryMed Inc., based in Portland, Ore.

Hospira Inc. (HSP), headquartered in Lake Forest, Ill., is increasing its investment in new technologies with infection-control properties, including silver. The company is targeting initial market introduction for certain advancements next year, said Kevin Orfan, vice president of medical devices at Hospira, in an emailed statement.

Hygiene Key To Blocking Infections

According to a report published this year by the U.S. Centers for Disease Control and Prevention, which looked at data from 2002, there were an estimated 1.7 million health-care-associated infections in U.S. hospitals that year. Nearly 99,000 people died from these infections, lead by deaths from pneumonia and infections of the bloodstream and urinary tract.

These types of infections are common because they can come when hospitalized patients - who may already have weakened immune systems - are made more vulnerable by various tubes and devices breaching the immune system's basic borders, said John Jernigan, a medical epidemiologist at the CDC.

He said antimicrobial devices could play a role in blocking infections, but also noted that more expensive devices aren't necessarily needed in every case, and that health-care workers should guard against letting such devices trigger lax habits. The best way to fight infections is to avoid them, and adhering to good, basic hygiene practices and existing recommendations is a good start, Jernigan said.

"Is it possible that even further reductions can be achieved using these novel devices? Possibly," he said.

Among tough infections people can acquire, MRSA - or Methicillin-resistant Staphylococcus aureus - has been grabbing headlines lately due to its appearance in communities. But it is also still a scourge in health-care settings, where its prevalence has risen considerably recently, according to CDC data.

The cost of health-care-associated infections is tough to quantify, according to Jernigan, but there is no question that it is very costly to keep patients hospitalized for longer than their underlying condition would have required. The CDC's very broad estimates for the annual cost of these infections range up to $ 27 billion, Jernigan said.

The government has signaled that it doesn't want to foot the bill. Inpatient payment reforms from the Centers for Medicare and Medicaid Services announced on Aug. 1 included a plan to cut back on payment for certain infections that weren't present when patients were admitted.

This notice helped pump up interest in medical devices with antimicrobial coatings, according to device makers. "I think it's just kind of a clinical wake-up call for the community," said Jack McMaken, president and chief executive of AcryMed, which makes the silver nanotechnology for medical devices.

AcryMed's silver technology is unique, according to McMaken, because it involves tiny nanoparticles and isn't a basic surface coating. The particles are put both on and in the surface of devices, without the use of any adhesive, after the devices are manufactured.

AcryMed's first - and thus far only publicly acknowledged customer - for this technology is I-Flow Corp. (IFLO), which makes a disposable pain-relief pump called On-Q. But McMaken said AcryMed is talking to a host of companies that make products ranging from orthopedic implants to eye-care products, and has some other licensing and development contracts.

"We've been besieged by phone calls" ever since a study was released in September showing that I-Flow's device significantly reduced surgical-site infections, McMaken said.

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