Battle over eye medicine gives drugmaker a dose of reality

The drug Avastin has made headlines in recent years for its ability to treat colon and lung cancers. But when the South San Francisco–based biotechnology company Genentech, which developed Avastin, revealed plans in October 2007 to place certain limitations on the distribution of the drug, it was eye doctors who cried foul.

On 20 December, after enduring criticism from retinal specialists, the company amended its decision to restrict sales of the medication. Genetech announced that it would not block doctors' access to the drug. Still, the ordeal has left lingering concerns about the availability of Avastin, and has raised larger questions about drug pricing.

The power of Avastin, a synthetic antibody molecule, lies in its ability to limit blood vessel growth. It was approved by the US Food and Drug Administration for the treatment of colon cancer in 2004. But eye doctors found that in small doses—available for $15–50 from compounding pharmacies—Avastin also worked better than anything else available for conditions such as "wet" macular degeneration, a disorder in which abnormal blood vessel development in the eye can lead to blindness. The age-related form of this disease strikes approximately 200,000 people each year in the United States alone.

Genentech quickly developed Lucentis—a truncated version of the same antibody used to create Avastin—and tested it specifically for the eye. Approved in 2006 to treat certain forms of macular degeneration, Lucentis was priced at $2,000 a dose, or as much as $50,000 for an entire course of treatment. In October, the company said that in 2008 it would stop supplying Avastin to compounding pharmacies, where ophthalmologists typically had the drug mixed for their patients. The company cited concerns over the sterility of drug processing at such pharmacies among its reasons for its plans to restrict distribution.

Although the Lucentis treatment costs 40 times more per dose than the Avastin treatment, Genentech thought it could convince doctors to switch to the new medication. After all, in previous cases, other drug companies had been able to persuade doctors to go along with them in somewhat similar situations. For instance, when the company AstraZeneca in 2001 introduced the heartburn medication Nexium, which was derived from a blockbuster drug about to go off patent, many doctors convinced their patients to switch to the new and nearly identical drug.

But Genentech bet wrong, perhaps not realizing that retinal specialists were fed up with the escalating cost of drugs in their field. In 2000, Novartis's Visudyne hit the market at $1,350 per dose. Next came Pfizer's Macugen, approved in 2004 and priced at $1,000 per dose, or about $13,500 per case of the disease. So that same year, when Avastin became available, it was a breakthrough—not only was it incredibly effective, but it was cheap, too: "It was revolutionary, like penicillin," says Greg Rosenthal, a retinal specialist in Toledo, Ohio.

Diedra Laird

Improving sight: Doctors and companies don't always see eye to eye on which drug is best.

Genentech's move to limit Avastin sales was the proverbial straw that broke the camel's back, says Rosenthal. He estimates that if eye specialists switched all of their Avastin cases to Lucentis, the cost of treating macular degeneration and other eye diseases such as diabetic retinopathy would skyrocket: "What kind of precedent does that set for medicine in general? The stories about [drugs such as] Nexium pale in comparison."

The doctors' outcry caught the attention of US Senator Herb Kohl (Democrat, Wisconsin), chair of the Senate Special Committee on Aging, who has estimated that the switch to Lucentis would cost US taxpayers $1 billion to $3 billion per year.

Kohl opened an investigation into Genentech's actions on Avastin last November, and his move was widely viewed as a major factor in Genentech's December announcement that eye doctors could continue to administer Avastin off-label by ordering it themselves and having it shipped to a compounding pharmacy. The company, however, denies that the investigation was a factor in its announcement.

In the end, Genentech's decision, negotiated with professional eye doctors' associations, came as a relief to doctors. And a US National Institutes of Health–sponsored head-to-head trial of Avastin and Lucentis is expected to get underway early this year.

But the issues raised by this situation aren't going to disappear, according to Kohl, who vows that his investigation into Genentech's actions will continue.

"Currently we still have outstanding document requests, pending interviews to complete, as well as unanswered questions relating to the cost of these drugs to Medicare," the senator said in a statement.

Meanwhile, Rosenthal notes that some state pharmacy boards, such as Ohio's, have refused to go along with the plan to let doctors bulk order Avastin through compounding pharmacies, requiring them to submit paperwork for each patient needing the drug—a step that adds time and expense.

And although the Avastin episode was unprecedented, some doctors say that more conflicts over drug pricing are inevitable, owing to factors inherent in the US health care system. "We are unwilling to deal with the core issue, which is the way drug prices are set," says Peter Campochiaro, a retinal specialist at Johns Hopkins University in Baltimore, Maryland. "And it's the patients who ultimately lose out."

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