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BioCryst pushes positive HAE news and taps market once again

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Its flirtation with gout and hepatitis C now ended, BioCryst Pharmaceuticals is firmly a hereditary angioedema (HAE) company, with new proof-of-concept data supporting continued work on BCX4161 as the market turns increasingly competitive.

It may be disappointing to executives of the North Carolina-based company that its shares did not experience even the biggest rise among the HAE players on Tuesday – that honour went to Dyax – as wise investors foresaw the $100m stock offering that followed 10 hours after the BCX4161 data were announced. BioCryst may have the first-ever oral candidate for HAE, and could be only the second one to prevent acute episodes, but it has a mighty task in unseating Shire's incumbent, Cinryze.

Fundraising foreseen

BioCryst said a phase IIa trial of BCX4161 resulted in an attack rate of 0.82 a week among 24 patients who took the drug for a month, a statistically significant difference from the 1.27 rate the same patients recorded when taking a placebo in the crossover-design study. All patients had to suffer at least one attack of swelling per week in order to enrol in the trial.

The group said it was planning to initiate a 12-week phase II trial later this year. Analysts from Roth anticipated the fundraising that followed the announcement because of the need to fund clinical development of BCX4161; BioCryst ended the first quarter with $34m in cash, enough to last until the end of 2014.

If Cinryze's trials are any indication, the population in BCX4161's programme will not need to be much bigger than the phase IIa, although the 12-week duration of therapy should be the minimum necessary for the next stage of development.

Cinryze's prophylactic trials cut the number of attacks by more than half, so BCX4161 will have its work cut out if it wants to compete. On the other hand, oral delivery differentiates it from the intravenously delivered Cinryze, so BioCryst executives are probably banking on that quality helping it compete should its performance appear slightly inferior.

Convenience

The HAE world in the US has evolved from one in which there were virtually no treatments six years ago to one in which the choice of medication is growing both for prevention and acute attacks in a population that numbers about 6,500 in the US.

Shire's Cinryze, the routine prophylactic treatment it acquired with the takeout of ViroPharma last year, is the biggest seller in the space at a forecast $487m this year, a total expected to rise to $894m by 2020, according to *EvaluatePharma* (*ViroPharma gets out while the going's good, November 11, 2013*).

The ViroPharma transaction gave the UK-based company a formidable one-two punch in Cinryze and Firazyr, the acute treatment expected to hit sales of $645m in 2020. In the acute setting patients also have the choice of CSL's Berinert P and Dyax's Kalbitor, which like BCX4161 is a kallikrein inhibitor, but subcutaneous.

It was Dyax that saw the biggest benefit from BioCryst's good news, with its shares jumping 27% Tuesday because of investors' readthrough on its phase I DX-2930, an antibody working on the kallikrein-kinin pathway.

Dyax's candidate is also an injectable drug, which will allow BCX4161 some differentiation. However, it is not at all clear that the market will see oral delivery as an advantage over either the Cinryze or Dyax treatment. Bank of America-Merrill Lynch surveyed HAE specialists, and found that they fear BCX4161's burden of four pills three times a day may impede compliance, which could trigger breakthrough attacks.

Cinryze is an IV infusion dosed once every three to four days, which presents its own compliance challenges, although Shire is working on a subcutaneous formulation, a development that could help it enliven the

franchise following the expiration of orphan drug exclusivity next year. Of the pipeline candidates, the Bank of America survey revealed that the specialists prefer the Dyax subcutaneous antibody because it could be dosed once or twice monthly.

In offering an oral alternative, BioCryst is trying to offer patients a more convenient option in a prophylactic market with increasing competition. Even if it proves as effective in the clinic as existing products or upstart competitors, though, it looks as though the group will still need to work hard to persuade physicians who will favour the drug that promises better real-world performance.

Trial name	Setting	Trial ID
Opus-1	Prophylactic trial in 24 patients	NCT01984788

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