



GREEN-LIPPED MUSSELS A POTENTIAL TREATMENT FOR ASTHMA?

A marine oil called Lyprinol, which is extracted from New Zealand's green-lipped mussels, may help reduce asthma symptoms in some adults and children. **Caroline Wood** reports on a homegrown success story.

THE POWERFUL anti-inflammatory properties of a marine oil called Lyprinol®, which is extracted from New Zealand green-lipped mussels, may hold the key to developing new asthma treatments to help adults and children with the condition, according to a new study.

Over the past three decades numerous studies have looked at the beneficial effects of fish oil supplements in treating a number of inflammatory conditions, including asthma. The interest in fish oil began in the 1980s after it was discovered the Inuit people of the Arctic far north had a low prevalence of asthma, arthritis

and heart disease. Researchers, such as DF Horrobin, hypothesised this may be due to their oily fish diet, which was high in the omega-3 fatty acids EPA and DHA.

In a recent editorial in the *Expert Review of Respiratory Medicine* (December 2013) called 'Omega-3 fatty acids: a potential treatment for asthma?' authors Timothy Mickleborough and Martin Lindley reviewed a number of studies. They concluded that omega-3 fatty acids in fish oils may have beneficial effects in some people, although they noted that some studies didn't show a positive effect.

In the article, Mickleborough and Lindley described their

own study of the therapeutic potential of a different kind of marine oil extracted from New Zealand's green-lipped mussels. Their study involved giving asthmatic patients a daily supplement of PCSO-524® (the active ingredient of Lyprinol), for three weeks. The results showed 'significantly reduced airway inflammation and bronchodilator use and improved mean asthma scores'.

They wrote: "Our study supports a number of other studies that have shown PCSO-524 is effective in treating human asthma and allergic inflammation and lung function..." They said the physiological mechanisms leading to the reduced airway inflammation and improved lung function were 'unclear' and noted that the levels of EPA and DHA in their study were very low.

"The potent anti-inflammatory action of PCSO-524 may be due to the fact this extract contains up to 91 fatty acid components and contains furan acids, which have been shown to possess more potent anti-inflammatory activity than EPA," they suggest.

Mickleborough and Lindley claim as many as 50 per cent of patients do not benefit from currently available asthma medications.

They say further large-scale clinical studies are needed to determine which patients are most likely to respond best to omega-3 fatty acid supplementation and the minimum effective dose and duration needed to show beneficial effects.

Asthma New Zealand sells Lyprinol to its members via its Auckland shop and a few years ago carried out a clinical trial of PCSO-524, which involved 71 children with moderate to severe asthma. It found that it helped improve participants' quality of life but did not reduce the amount of asthma medication they needed to take.

Study leader Dr Jim Lello, medical adviser to Asthma New Zealand, said of the study, which was published in the *Journal of Allergy and Clinical Immunology* in 2012: "Although the primary outcome of steroid

sparing was not demonstrated, this was an ambitious target. Several secondary outcome measures (eg quality of life measures and reduction in exacerbations) showed trends that suggested benefit in this group of children with troublesome asthma."

Colleen Brady, whose son James was in the trial, said: "James' breathing was far better and he could play the trumpet and saxophone with very little trouble." Another parent of a child in the trial, Tom Bogdanowicz, said: "Noah was able to significantly reduce his asthma medication during the time he took Lyprinol."

Lyprinol is made from New Zealand mussels using a patented extraction process, which takes place in Nelson. More than 400,000 packs each month are sold worldwide.

* Mickleborough and Lindley's article can be viewed at www.expert-reviews.com.

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