

By **LYNNE WALLIS**

WHEN Ian Graham tripped and fell, hitting his head on the kitchen floor in early 2019, he couldn't have imagined the far-reaching consequences it would have on his health.

The former social services support worker, 65, from Liverpool, was in hospital for three weeks after his accident. But his traumatic brain injury he had suffered also triggered a long-term condition that's had a devastating impact.

Ian, who is married with two grown-up children, had been otherwise healthy until then, yet following his fall, he struggled to remember words and suffered from fatigue and apathy. He also developed a shuffling gait.

His wife, Anne, 66, says his character changed, too: 'He had no empathy at all — and he didn't seem to care about me or how I was feeling,' she recalls. 'I must have cried every day for the first year.'

It wasn't until Ian saw a hormone specialist in 2021 that the cause became apparent — he had very low levels of growth hormone, vital for many functions in the body including mood, metabolism and bone density.

While some children are born with growth hormone deficiency (GHD), in adults it's mainly triggered by a head injury — something as simple as a fall — which damages the pituitary gland, a tiny bean-shaped gland behind the nose.

It regulates the production of most of the body's essential hormones, including growth hormone.

The pituitary gland can also be damaged by surgery, a tumour or problems with blood supply to the gland (which can be caused by blood thinning medication), according to The Pituitary Foundation, a patient support organisation.

In adults, GHD can cause a wide range of symptoms including loss of strength and stamina, excessive tiredness, anxiety, depression and reduced bone density.

It can also increase levels of LDL, or 'bad' cholesterol and other harmful blood fats, as well as directly damaging heart muscle and disrupting glucose metabolism — or how carbohydrates are turned into energy by the muscle cells — leading to increased fat around the waist.

This link with cardiovascular health was significant for Ian, for at the end of 2021 he developed several pulmonary embolisms, blood clots in his lungs (considered cardiovascular 'events') that he believes could have been prevented.

'I should have been tested for high cholesterol after I was diagnosed with very low growth hormone levels and put on medication,' he says. 'I'm now on blood thinners for life.'

FOR years the role of GHD has been overlooked as a significant risk factor for developing heart disease — indeed it was only in July last year that the British Heart Foundation (BHF) recognised GHD as a cause of high cholesterol.

There are officially around 6,000 people with adult-onset GHD in England and Wales, according to the Society for Endocrinology, although campaigners claim the real figure is much higher, but most cases go undiagnosed.

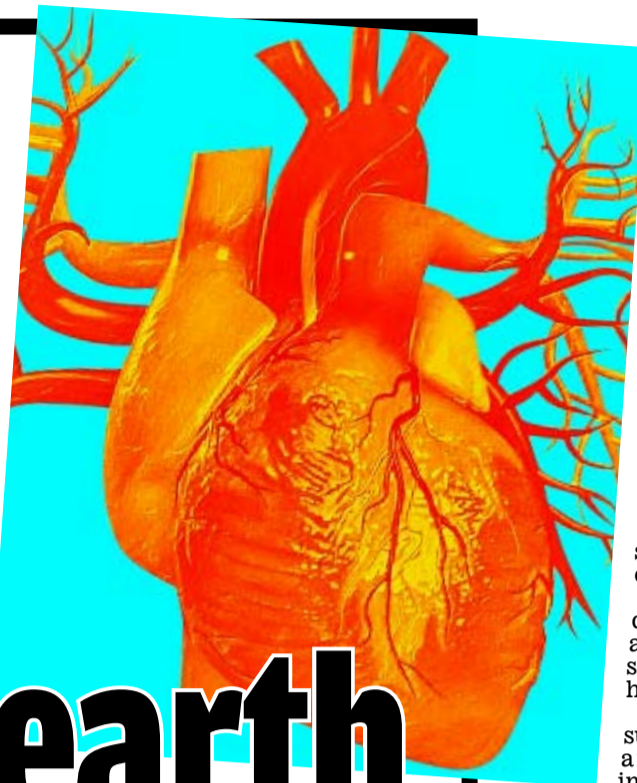
'The impact of undiagnosed GHD can be so devastating it can lead to chronic depression and even suicidal thoughts,' says Ashley Grossman, a professor of neuroendocrinology at Barts and the London School of Medicine.

Despite its impact, adult-onset GHD wasn't recognised as a serious or 'clinically relevant' condition until 2005, according to the Journal of Clinical Endocrinology and Metabolism.

As Professor Grossman explains: 'Until the late 1980s/early 1990s, we used to think about growth

It's a problem that affects thousands, but even specialists are missing the dangers after a fall

How on earth does a bump on the head give you high cholesterol?



to remain anonymous). After suffering a head injury in his 20s, John, now 51, experienced poor mental health, chronic fatigue and inexplicably high cholesterol all his adult life.

'I was also often confused and unmotivated,' he recalls. 'I had no muscular strength or sexual function, which was devastating.'

'I seemed to develop some new symptom every week.'

Yet none of the doctors John saw after his head injury or since ever checked his hormone levels.

When he was 39, he suffered a heart attack and had a stent implanted to open a blocked artery. But it

was another eight years before he was finally diagnosed and treated for GHD. A score below three is deficient in GHD — John's was 1.85.

'I cried when I got the result,' he recalls. 'It was an emotional moment because I had felt so bad before the test, I had already decided to take my life if I failed it. Life just wasn't worth living the way I was then.'

Symptoms of GHD can be improved by injecting a synthetic form of growth hormone, a treatment that's becoming more widely available on the NHS, potentially reducing the number of patients who go on to develop heart disease.

JOHAN, whose growth hormone replacement therapy began in November 2020, says that before treatment started, 'I had to do the washing up in two halves because I was so tired — now I do it all in one go'. 'My clarity of thought has returned, and I am less anxious and irritable. I'm grateful, but GHD has stolen more than two decades of my life that I will never get back.'

'There needs to be better awareness of GHD, particularly its links to heart problems,' he says.

Ian, meanwhile, was about to start the hormone treatment when he suffered the pulmonary embolisms at the end of 2021.

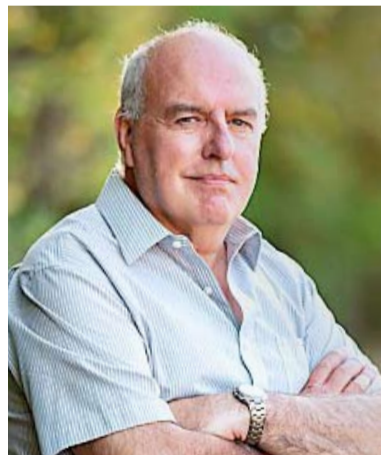
But now that he's having the daily injections, his symptoms have improved.

'I definitely feel better and my wife and friends say I am very much improved,' he says.

'I was socially isolated and apathetic and I stopped doing all the usual things people do — but I am feeling more confident now in what I say. Although I still have some fatigue.'

His wife, Anne, adds: 'Since Ian began injecting growth hormone, he is much more like his old self. I also noticed the other day that he doesn't shuffle any more and his arm swings as he walks, just like it used to. I think the growth hormone replacement therapy has made a big difference.'

■ christopherlanetrust.org.uk



Brain injury: Ian Graham, 65

hormone as something exclusively related to growth. Endocrinologists have known about GHD and heart disease for years, but cardiologists haven't really thought about it until now.'

Doctors and campaigners have welcomed the news that GHD has now been acknowledged as a cause of high cholesterol by the British Heart Foundation.

As Professor Grossman explains, the BHF move will increase the numbers diagnosed with heart disease caused by GHD.

Antonio Belli, a professor of trauma neurosurgery at Birmingham University and an expert in

GHD, concurs: 'Too many cases of heart disease linked to GHD go undiagnosed. This new recognition from the BHF could certainly improve diagnosis rates.'

It 'will make a huge difference to adults who suspect there is an underlying, unrecognised cause of their cardiovascular disease', adds Joanna Lane.

Two years ago she set up the Christopher Lane Trust charity to raise awareness of hormonal disorders, including GHD, after her son took his life in 2008 at the age of 31 when he became severely depressed about being impotent.

She believes this was linked to damage to his pituitary gland (which also produces testosterone) after he suffered a fall, aged seven, that left him in a coma for two weeks.

The BHF move will, she says,

mean people who find they're deficient 'in this critical hormone may get treatment that saves them from suicide or premature death from other causes'.

Joanna has fought to raise awareness of the harm from pituitary gland damage, and with other campaigners has been lobbying the National Institute for Health and Care Excellence (NICE) for more than a decade to recommend that traumatic brain injury patients are warned their hormones may be affected.

Finally she has had some success, and from March, new NICE guidance will set out that when discharged from hospital, these patients must be told to see their GP if they have symptoms of hormone deficiency.

This kind of advice might have helped musician John (who wishes



For our health editor's picks of the best from the Mail and Mail On Sunday, sign up to her weekly newsletter ...

Scan this QR code or go to:
mailplus.co.uk/healthnewsletter