

## Diabetes and Pernicious Anaemia

Society members will already be familiar with Martyn Hooper's [book](#), "*Pernicious Anaemia: the Forgotten Disease - the causes and consequences of vitamin B12 deficiency*."<sup>1</sup> Briefly, a complicated immune orchestra destroys cells in the stomach lining, increasing gastric pH, allowing bacteria (normally suppressed by low pH) to thrive, to possibly interfere with absorption of indispensable micronutrients, including vitamin B12.<sup>2</sup> The net result of progressive inflammation is the severe form of vitamin B12 deficiency, pernicious anemia (PA).

What happens when this misguided attack on the stomach lining is accompanied by a second autoimmune/comorbid disease attacking a different organ in the body? This prospect is increasingly likely, given the rise in chronic diseases in aging populations. Stomach problems that may occur concurrently with the insidious progression from autoimmune gastritis to PA, can sometimes be a clinical signal of damage to another organ tucked behind the stomach, i.e. the pancreas. The pancreas secretes insulin, a critical hormone, that assists the body in absorbing glucose and other nutrients from food. Insulin and its precursors are also targets for autoimmune attack, leading to Type 1 or "juvenile" diabetes, a condition affecting 5-10%<sup>3</sup> of all diabetics. Adult-onset or type 2 diabetes (more information can be found in the *Diabetes Portfolio*<sup>4</sup>), which accounts for 90%<sup>5</sup> of all diabetic cases, occurs as a consequence of insufficient insulin production or resistance of the body's tissues to normal or higher amounts of this hormone.

While PA is thought of as an under- or misdiagnosed disease (present in up to 2% of the general population)<sup>6</sup>, for a variety of reasons,<sup>2</sup> the number of known diabetics total more than 371 million across the globe.<sup>7</sup> Autoimmune gastritis and PA are increased up to 5-fold in Type 1 diabetics.<sup>6</sup> Moreover, metformin, a popular, oral antidiabetic medication, may contribute to vitamin B12 deficiency.<sup>8</sup> These points underscore the need for a holistic approach in the management of PA and co-occurring illnesses.

## References

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