Obituary

Professor Michael N Marsh BTh, DPhil, DM, DSc, FRCP

It is with deep regret that we announce the passing of Professor Michael Newton Marsh. He spent much of the last 50 years working on small intestine immunopathology, including electron microscopy and tissue structure. It was his determination, hard work and his ability to apply science to clinical practice that resulted in milestones not only in coeliac disease histology but also in his pioneering work on the recirculating of thoracic duct lymphocytes and tracking of labelled thoracic duct blasts to the intestinal lamina propria and differentiation in IgA-secreting plasma cells (Gut 1975).

He travelled and lectured as distinguished visiting Professor/International Medical Scholar on intestinal immunopathology and the mucosal responses to environmental antigenic challenges—food; parasitic; tropical diarrhoea-malabsorption syndrome; host-host immune histoimmunopathologies. Marsh inspired the intestinal immunopathology scientists East-West, from San Francisco to Delhi (India): North-South, from Tampere (Finland) to Christchurch and Dunedin, New Zealand, Australia, Ankara, Tehran and so much more.

Dr Marsh elucidated the spectrum of sequential changes from mild leading ultimately to the severest degree of mucosal damage; the ‘flat’ mucosa (reading progressive degrees of damage from left to right) in coeliac patients. He pursued to organise the field in order to pin down possible immunogenic epitopes; to track a greater understanding of refractory coeliac disease that has resulted in the diagnostic and therapeutic innovations in Amsterdam and Paris; and finally, to launch the four phases of his mucosal spectrum, originally designated normal; infiltrated; infiltrated-hyperplastic and flat as a consequence of the intestinal mucosal responses to environmental antigenic challenge in coeliac disease.

He showed that genetically predisposed population of subjects likely to get this condition are not born with abnormal mucosae. Except that antecedent to any possible occurrence of tissue damage is the requirement for genes to act with the ingested ‘foreign’ proteins in dietary wheat grasses, thence to activate intestinal mucosal T lymphocytes, which only then trigger the immune and inflammatory cascade, resulting in the spectrum of mucosal changes. A process was formally identified by Dr Marsh. This ground-breaking work, to his great surprise, came to be known eponymously as Marsh O, I, II, III or the Marsh Classification that has now been internationally adopted as a solid landmark in both small intestine immunopathology and histology under a light microscope. His groundbreaking work in recent years using scanning electron microscopy to highlight large surface ‘wells’ over an apparently flat mucosal surface introduced a new dimension in small intestinal immunopathology. He was disappointed with continues widespread erroneous use of ‘atrophic’ terminology, and accompanying nonsense designations ‘partial’, ‘subtotal’ and ‘total’ villous destruction and even the subdivisions Marsh IIIa, b, c into a so-called ‘definitive revision’ but which were only a non-existent, poorly camouflaged repetition of Shiner’s original categorisations. He demonstrated that the mucosal lesion pathology is not an atrophic process, since regeneration occurs on removing the antigen. His terminology tried to avoid these 1950s type, meaningless forms of nomenclature.1

Dr Marsh never truly retired. He inspired many to follow his footsteps during his lifetime and his insightful views always showed a path forward to those of us who were fortunate enough to work with him until the very end. He peacefully passed away on 12 July 2021, aged 84 at home, surrounded by loved ones.

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