including the maintenance of primary data over a 10-year period, details on how to keep a laboratory notebook, and the authorship of scientific articles. Most important, formal adoption of these guidelines was made mandatory for future public funding of research at these institutions. Interestingly, the committee also criticized the inadvertent emphasis given to ‘high-impact’ publications and the general ‘publish-or-perish’ attitude that appears to be a major motive for deceitful and unethical behaviour in science. It is difficult to see how this attitude can be changed without withdrawing the major motivation for high-quality science—seeing your name in print in a prestigious scientific journal.

Despite the uproar, fraudulent science will continue. Recently, another case of extensive data manipulation was discovered in Cologne, and has resulted in the premature ‘retirement’ of a British researcher who headed a research team at the prestigious German Max-Planck Research Institute. It will be up to the scientific community to cultivate a high degree of caution and make sure that ‘good scientific practice’ is indeed followed in the laboratories. This is not only a question of culture but also a question of responsibility, especially under conditions where sources for research are limited and the squandering of public money on fraudulent or questionable research is more than what society can afford.

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Letter from North America

GASTRO-OESOPHAGEAL REFLUX—A WIDESPREAD MEDICAL CONUNDRUM

Gastro-oesophageal reflux is causing Americans to visit emergency departments many times each year with symptoms of crushing chest pain, anxiety and fear of heart attack. Gastro-oesophageal reflux disease (GERD), believed to affect 40 million Americans, refers to the pathological consequences from reflux of gastric acid into the oesophagus. Treated with antacids, lifestyle modifications, antisecretory drugs and when indicated, surgery, this widely misunderstood condition is currently at the forefront of public interest. The antisecretory drug market, worth US$ 6 billion, is itself reaching the public through newsprint and electronic advertising with non-prescription products of H₂ blockers and proton pump inhibitors to prevent symptoms. Very little, if any, attention has been given to public education on the nature of the problem.

Widespread acceptance of endoscopy by the public and the increasing use of oesophageal motility studies and 24-hour pH monitoring are leading to overall improvement in the management of the problem but only by a few specialists in gastroenterology and surgeons trained to manage benign oesophageal conditions. The conundrum is in separating those individuals who have occasional reflux from those who have the disease and need special investigations and treatment. A recent national poll indicates that 19 million Americans have symptoms of GERD, including heartburn at least twice a week that can be relieved by medication. This incidence may be an underestimate since GERD may be asymptomatic. Oesophageal spasm and pain, masquerading as angina or myocardial infarction, cause patients to visit emergency care centres and account for 75 000 to 150 000 cardiac catheterizations a year that turn out to be normal. Of the 6 million people who visit emergency departments with chest pain or similar symptoms per year, 10%–20% are estimated to have GERD. These patients are frequently made to undergo a stress test, echocardiogram, angiogram and other expensive tests and then told they do not have heart disease; they return for follow up and after two or three months may have another cardiac work up. It is often one year or more before GERD is diagnosed and treatment instituted.

GERD may cause or contribute to several non-digestive problems—70% of the country’s 12 million asthmatics as well as 80% of patients with chronic hoarseness are believed to have GERD. It is also associated with chronic cough, dental erosion and chronic upper abdominal pain. Some medications, such as calcium channel blockers, asthma medications and birth control pills can aggravate GERD—a fact not known to patients and physicians alike. According to one national authority, the cost of misdiagnosing GERD amounts to about US$ 750.

In a society that trivializes heartburn and ‘stomach upsets’, many learn to live with the disease while they overuse medications, continue to treat themselves and then turn to health care providers who also misunderstand the disease, leaving patients to develop oesophageal ulceration, strictures, bleeding, erosive oesophagitis and Barrett’s oesophagus, a pre-cancerous condition.

Few areas in medicine have undergone such innovative changes as that of the upper gastrointestinal tract. The discovery in the early 1990s of Helicobacter pylori causing peptic ulcers and the relief of gastro-oesophageal reflux by H₂ blockers was known well before the disease was defined. As physicians are getting educated about the widespread incidence of GERD, legislation is being introduced to help those with GERD, masquerading as heart attack, being refused coverage for emergency room visits. Claims for GERD-related problems are frequently denied, on the basis that they could be treated as non-emergencies. Some states already have a law, based on a ‘prudent’ layperson’s definition of an emergency, that requires retrospective payment of emergency care claims for GERD.

Clearly, what is needed is educating the public and the wide spectrum of physicians, and other health care providers.

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