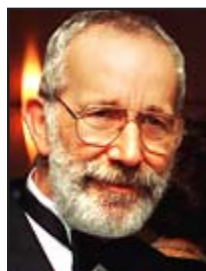


NEWS

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2005

*Treating ulcers with antibiotics*



J. Robin Warren

The Nobel Prize in Physiology or Medicine for the year 2005 has been awarded jointly to J. Robin Warren and Barry J. Marshall. These Nobel Laureates made a remarkable and unexpected discovery that inflammation in the stomach (Gastritis) as well as ulceration of the stomach or duodenum (Peptic ulcer disease) result from an infection of the stomach caused by the bacterium *Helicobacter pylori*. It was such a radically new theory that everybody tried to disprove it. But Marshall's endeavor, youthful curiosity, talent and ambition coupled with Warren's solid classical knowledge in pathology led to fundamental changes in our approach to the pathogenesis and treatment of peptic ulcer disease.

J. Robin Warren was born on June 11, 1937 in Adelaide, South Australia. He graduated from the University of Adelaide. After graduation he worked as a pathologist in various Institutes. Robin isolated bacteria from gastric antrum of majority of patients. He also observed that signs of inflammation were always present in gastric mucosa close to where the bacteria were seen. Since every one knew that bacteria couldn't survive in the stomach's acid environment, Robin had to listen to unkind jokes from his peers about his theory that an unusual bug had some role in causing stomach inflammation.



Barry J. Marshall

Barry J. Marshall was born on September 30, 1951 in Kalgoorlie, Western Australia. He graduated from the University of Western Australia in 1974. After graduation he worked in Medicine and Microbiology in Western Australia. Marshall was in the final stages of training to become a physician. He explains, "When I was in medical school I was given the impression that everything had already been discovered in medicine. So I never thought that medical research would be interesting, but as I did my internship...I realized there were a lot of people who had things wrong with them that you couldn't do anything about particularly". So Marshall was casting around for a research project to complete his evolution into a physician. His boss suggested him to check out the Warren's work and the rest, as they say, is a medical history. Marshall became interested in Warren's unusual findings. Both joined hands and studied biopsies from a large number of patients. Marshall was able to grow unknown bacteria from several of these biopsies. Marshall was so convinced that bacteria and not stress caused ulcers that he drank a germ-laden drink in July 1984. As a result he suffered severe stomach inflammation for about 2 weeks. He had hunger pangs even when he was full. He felt nauseous and even vomited a few times. His perseverance settled the

controversy. Thankfully, he recovered and his self-induced infection launched him on a high profile research career. The significance of Warren and Marshall's discovery has been reflected in the awards they have won for their work in uncovering *H. pylori*, namely: Warren Alpert Prize (1995, Warren and Marshall), Albert Lasker Award (1995, Marshall), John Scott Award (1995, Marshall), Gairdner Award (1996, Marshall), Paul Ehrlich Prize (1997, Warren and Marshall), Kilby Prize (1997, Marshall) and of course, the Florey Medal (1998, Warren and Marshall). The Nobel Prize announcement is delayed by almost 20 years, which is evident from the telephonic conversation between Barry Marshall and the Nobel Foundation: Nobel Foundation: "For how many years did you make a joke about the prize?" Marshall: "Oh- well, the first time we... we first had a publication in *The Lancet* in 1984.....'83 or ... it might have been '83, and we made a joke then: we thought we'd probably won the prize in 1986 (laughter)".

Stress and poor lifestyle were considered major causes of peptic ulcer disease. But pioneering discovery by Marshall and Warren has revolutionized the treatment of peptic ulcer. A short course of antibiotics supplemented with acid secretion inhibitors cured the disease. Although peptic ulcer can be healed by inhibition of gastric ulcer secretion production alone, but it relapses, as bacteria and inflammation remain. It is now established that *H. pylori* cause more than 90% of duodenal ulcers and up to 80% of gastric ulcers. This link has been validated by epidemiological studies. But there is also some evidence that *H. pylori* might also have a beneficial effect. Since the discovery of bacterium the research in the field has grown exponentially. Exact etiopathogenesis is continuously being updated. Establishment of animal model, Mongolian gerbil, has given a window of opportunity for exploring further. This discovery has stimulated scientists to investigate other chronic diseases like Crohn's Disease, Ulcerative colitis, Rheumatoid arthritis and Atherosclerosis for a probable microbial cause!

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