

Virtual Mentor

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Journal discussion

Media reporting and emergency room testing trends

by Sanjay Arora, MD

Sharma V, Dowd D, Swanson DS, Slaughter AJ, Simon SD. Influence of the news media on diagnostic testing in the emergency department. *Arch Pediatr Adolesc Med.* 2003;157:257-260.

The news media, historically the means by which a large segment of the population gets its health information, strongly influence what health topics Americans think are important [1, 2]. From a public health perspective, this relationship can be a positive one, as seen by the dramatic decrease in cases of Reye's syndrome after the media warned of its connection with aspirin use in children [3]. After the importance of colonoscopy was discussed on NBC's *Today Show* in 2000, screening for colon cancer increased by 27 percent [4].

Unfortunately, medical information in the media is also subject to gross inaccuracies and sensationalism that can lead to unnecessary panic. In a 2006 article Steven Woloshin and Lisa M. Schwartz looked at media coverage of research presented at scientific meetings and concluded that news stories often omit basic study facts and conclusions and may mislead the public about both the validity and relevance of the science [5]. In addition, minimal effort is made by the media to distinguish between industry-sponsored studies and independent analysis when information on new medications or products is presented. Widely disseminated health information has the power to change patient expectations, physician decision making and treatment options dramatically.

In the article under review, Vidya Sharma and colleagues report on a study that sought to describe the effect that increased mass media coverage of a given disease had on emergency room testing for that disease [6]. Using an observational retrospective study design, they examined the association between the amount of media coverage of group A streptococcal (GAS) infection and the level of testing for GAS in a large emergency department (ED) in an urban Midwestern children's hospital. They constructed a database consisting of all patients seen in the ED over a two-year period from December 1, 1999 to November 30, 2001. From this database they then abstracted the following: visit date, age of patient, presenting complaint, primary discharge diagnosis, whether a rapid test for GAS was done and the results of the test. Sharma et al. also collected all television stories that mentioned the hospital and GAS, and all stories from the dominant local newspaper that cited strep, streptococcus, group A beta streptococcus, toxic shock and flesh-eating bacteria

over the same time period. The study period was then divided into eight, 90-day intervals for data analysis. Outcomes of interest were rates of GAS tests per 1,000 ED visits and proportion of positive tests.

There were a total of 5,926 GAS tests performed during the two-year study period. Sharma et al. found that the vast majority (96 percent) of media reports on GAS occurred from December 2000 to February 2001. During this particular time period, an average of 103 GAS tests were performed per 1,000 ED visits, nearly double the rate of 55 per 1,000 ED visits in the comparison 90-day time period from December 1999 to February 2000. The proportion of positive tests was 20 percent during the media blitz versus 33 percent in the comparison time period in year one. This led researchers to conclude that the peak in media coverage of GAS was associated with higher rates of testing for the bacterium without a significant difference in the proportion of positive results.

Discussion

Emergency department physicians are often the first to see the effect of a health-related news story on the general population. In this study, Sharma and colleagues showed that as GAS and flesh-eating bacteria became hot topics in the news, testing for GAS infection increased significantly in the ED. But what was the driving force behind this change in diagnostic strategy? Perhaps it was motivated by patients who heard scary stories on the nightly news or read about horrific cases in the newspaper and demanded to be tested for GAS the moment they walked into the ED. Or perhaps it was motivated by increased awareness and vigilance in the treating physicians, none of whom wanted to become the doctor who missed a case of the disease that everyone was talking about. Hence, during times of heightened disease awareness, physicians employ a more conservative diagnostic strategy. Based on the collected data—since there is no way to know for sure—I believe it is most likely a combination of the two. Patients coming to the ED are afraid they may have caught the new killer disease which the news says is ravaging their community, and physicians are equally afraid to let a case slip through their fingers.

The observed increase in testing for GAS is just one of many examples of the phenomenon of media coverage changing emergency department tests and trends. When West Nile virus and stories of dead crows dominated the airwaves, it seemed as if every patient with a headache who came into the ED was convinced that he or she had contracted West Nile virus. Motivated by the aforementioned fears, most physicians sent West Nile titers from both serum and cerebrospinal fluid at their patient's request. In the case of this disease, an increase in testing was probably warranted because there was a true, observed increase in disease incidence, but there is no doubt that the overwhelming fear instilled by the media drove us to perform far more tests than were actually necessary.

Another example of media coverage motivating patients to come to the ED was documented in a retrospective cohort study performed in 15 area hospitals in Trenton, New Jersey, in late 2001 after numerous letters in the area were found to

contain anthrax [7]. In the one-month period from October 11 to November 11, 2001, the percentage of patients discharged from the ED with the diagnosis of "concern for exposure" increased to 0.92 percent. This was a significant change from the 0.06 percent of patients who carried this diagnosis the month before October 11 and the 0.10 percent who carried it during the month after November 11, 2001. Clearly this multiple order-of-magnitude difference in frequency demonstrates that patient behavior and physician diagnoses were heavily influenced by the terror-related events covered on the news.

One of the major problems with looking at all studies related to the impact of the media is that it is impossible to tell in retrospect whether the observed changes were a result of shifting patient expectations or physician decisions. Answering this question would probably demand a prospective methodology. Until then, physicians must understand that the public will always be affected by what they see and hear in the news, and we must be ready to address their concerns when they show up in the ED. We cannot control what patients request when they enter triage, but we can control our own actions. When a health matter becomes front-page news, it is our duty to assume that not everything we hear is factual and to research the issue ourselves. We must look to reliable sources for information such as the *Morbidity and Mortality Weekly Report*, which can be found on the Center for Disease Control Web site. Once we know the facts, we should listen to and validate our patients' concerns and then use our medical knowledge and communication skills to allay their fears, rather than ordering unnecessary tests. In times of media frenzy and overwhelming public fear, we should remain calm, discover the facts and use these facts, not public opinion, to create diagnostic and therapeutic strategies that provide patients with the best and most appropriate health care possible.

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