

## Good News for HIV-Positive Surgical Patients

By Tim Horn, Senior Writer & Editor, AIDSmeds.com

Thanks to the widespread availability and use of antiretroviral therapy, Kaiser Permanente researchers suggest that HIV-positive patients can safely undergo a wide range of surgical procedures. The new study, published in the December 18 issue of *Archives of Surgery*, indicates that the risk of some post-operative complications is higher than that seen in HIV-negative patients, but mostly in HIV-positive patients with moderately high [viral loads](#) and very low [CD4 \(T4\) cell](#) counts.

People living with HIV sometimes require surgical treatment for problems related and unrelated to HIV infection. However, there have been conflicting reports regarding the risk of post-operative complications in this patient population. Some small studies have indicated that HIV-positive people are no more likely to experience problems stemming from invasive surgery – such as wound infection and septic complications – whereas others have suggested that, compared to HIV-negative patients, the risks are higher.

"One of the things that prompted the current study was that previous research had conflicting results, showing both positive and negative outcomes," says Michael A. Horberg, MD, Director of HIV/AIDS Policy, Quality Improvement, and Research at Kaiser Permanente. In the years before combination antiretroviral therapy was standardized, he says, "research generally posited that surgical outcomes were worse, but these studies were often inconsistent, with small sample sizes."

The study, led by Dr. Horberg, involved a comparison of the medical records of HIV-positive and HIV-negative patients undergoing either elective or urgent surgeries in the Kaiser

Permanente Medical Care Program. Procedures studied included appendix removal (appendectomy), bone surgery (arthrotomy or arthroscopy), bowel resection, gallbladder removal (cholecystectomy), heart operations (cardiothoracic surgery), hernia repair, uterus removal (hysterectomy), hip or knee replacement, abdominal scope surgery (laparoscopy or laparotomy), and breast reconstruction (mammoplasty).

The comparison involved 332 pairs of Kaiser Permanente HIV-positive and HIV-negative patients who had their surgeries between 1997 and 2002. Twelve months of post-surgical follow-up information was available for approximately 95% of the patients included in the review.

Among the HIV-positive patients, the average CD4 count at the time of surgery was 379 and approximately 61.5% had viral loads below 500; 68% were receiving combination antiretroviral therapy at the time of their procedures.

Generally speaking, post-surgical complications were no more frequent among the HIV-positive (11.1%) compared to the HIV-negative (10.2%) patients. However, there were more cases of pneumonia among the HIV-positive patients. Approximately 2.4% of the HIV-positive patients developed post-surgical pneumonia, compared to 0.3% of the HIV-negative patients.

There were also more deaths following surgery in the HIV-positive patients. Approximately 3% of the HIV-positive patients died within the 12 months following surgery, compared to 0.6% of the HIV-negative patients. It is important to note, however, that none of the deaths were believed to be attributed to post-surgical problems. Most of the patients who died had CD4 cell counts below 200 and likely experienced fatal AIDS-related complications.

Additional analyses of the data allowed the researchers to determine the risk factors associated with post-surgical

complications. For starters, HIV-positive patients with viral loads above 30,000 had a 2.96-fold higher risk of complications, compared to patients with viral loads below 30,000. These data suggest that antiretroviral therapy, with its profound effects of viral load, should be an important consideration for HIV-positive patients undergoing surgery.

HIV-positive patients with 50 or fewer CD4 cells had a 4.34-fold increased risk of post-surgical complications, compared to those with CD4 cell counts above 50. This finding also underscores the importance of antiretroviral therapy with respect to its ability to improve and maintain CD4 cell counts.

"What the results mean for patients who are HIV-positive is if there is a need for elective or urgent surgery, in nearly all cases, HIV should not be a reason for holding off on having surgery," says Horberg. Furthermore, he adds, "Most of these patients will have no increased risk of surgical complications compared to their HIV-negative counterparts."

Source:

Horberg MA, Hurley LB, Klein DB, et al. **Surgical outcomes in human immunodeficiency virus-infected patients in the era of highly active antiretroviral therapy.** *Arch Surg* 141:1238-45, 2006.