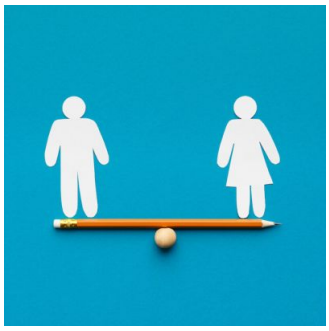
ICU
MANAGEMENT & PRACTICE

Sex-Specific Differences in Survival After OHCA



The survival outcomes of out-of-hospital cardiac arrests (OHCAs) can be influenced by many factors including age, the presence of witnesses, emergency service response time etc. However, it is still widely debated whether sex is a contributing factor to survival. This hypothesis was recently tested by the analysis of 386,535 individuals from the Japanese nationwide registry.

Previous studies have explored the extent of sex-specific differences in OHCAs with varying results. Some studies have reported that women of childbearing age, compared to men of a similar age, have improved outcomes. It was suggested that oestrogen's anti-apoptotic and anti-inflammatory properties and its ability to stabilise the mitochondria were the cause of this. However, it was reported in other studies that men and women were found to have equal survival rates and quality of life after an OHCA, with some reporting decreased survival outcome rates for women compared to men. The differences in results could be due to the different populations tested, EMS systems or the individual risk factors of the patients analysed.

In the recent study, researchers used hierarchical propensity score matching to confirm differences between the sexes for OHCA outcomes. After the analysis of multiple age groups in the registry over one month, it was confirmed that there were no differences in OHCA survival between men and women. This is the first incidence of a large cohort study of its kind to report no significant differences between the sexes for OHCA survival outcomes.

The results of the study reported that the crude survival rate and the rate of neurological-intact survival rate was increased in men compared to women in multiple age groups. However, after multivariate logistic regression, no significant differences could be seen.

The effect of hormones on OHCA outcomes is still unclear, as the cardioprotective properties of oestrogen have been reported, but no clear indication on the role of progesterone or testosterone on the cardiovascular system. However, it could be suggested that results reflect how oestrogen affects women and how testosterone affects men. Researchers also proposed that the results for neurological-intact survival rate could also be explained by the neuroprotective effects of sex hormones.

As the study reported no improved outcomes for women it is possible that oestrogen was not the main contributor to survival rates, even with the cardioprotective properties previously reported for this hormone. To confirm these results, future studies should look to include sex hormone assays in their analysis to ensure that these hormones are not effecting the OHCA survival outcomes in men and women.

Source: Critical Care
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