Heart surgery backlog requires urgent action

June 17 2022

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Urgent action is needed to clear the backlog of people with a common heart condition waiting for life-saving treatment, according to new research.

The team, including Chris Gale, a Professor of Cardiovascular Medicine

at the School of Medicine and Co-Director of Leeds Institute for Data Analytics, has warned that a lack of action could result in thousands of people dying while waiting for treatment for aortic stenosis (AS).

The COVID-19 pandemic has led to thousands of heart procedures being postponed, and to record waiting lists. Previous work has estimated that 4,989 people in England with severe AS missed out on life-saving treatment between March and November 2020.

Aortic stenosis develops when the heart's aortic valve becomes narrowed, restricting blood flow out of the heart. Prompt treatment is vital for people diagnosed with severe AS, as about 50% will die within two years of symptoms beginning.

An international team of researchers has now modeled the potential impact on waiting lists of increased treatment capacity as well as the use of a quicker, less invasive treatment option called transcatheter aortic valve implantation (TAVI). Even in the best-case scenario, they found that the waiting list would take nearly a year to clear and more than 700 people would die while waiting for treatment.

The study is published today in *BMJ Open*.

Avoidable deaths

Professor Gale says that "during the COVID-19 pandemic, there was a great decline in procedures used to treat severe aortic stenosis. In our study, we found that without a combination of increased capacity for treatment of patients with severe AS and an expansion in the use of TAVI, there would be many potentially avoidable deaths during the post-COVID-19 recovery period."

"This is the only option that will prevent the death of thousands of

people who have untreated aortic stenosis."

The traditional treatment for AS involves replacing the narrowed valve, most commonly through open-heart surgery (a surgical aortic valve replacement, SAVR). But TAVI, which is a newer keyhole procedure, is increasingly being used and is now recommended for patients aged 75 and over.

The researchers investigated the impact that increasing treatment capacity and converting a proportion of operations to the quicker TAVI procedure would have on the backlog.

They found that the best and most achievable option involved a combination of increasing capacity by 20% and converting 40% of procedures from SAVR to TAVI. This would clear the backlog within 343 days, with 784 deaths while people wait for treatment.

Greater collaboration

The team wants to see greater collaboration at local and national levels to agree the changes needed that can ensure that people with severe AS receive crucial treatment as quickly as possible.

Professor Mamas Mamas, Professor of Cardiology at Keele University and consultant cardiologist at University Hospitals of North Midlands NHS Trust, was one of the study's lead researchers. He says that "before the pandemic around 13,500 SAVR and TAVI procedures were performed each year across the UK. Increasing capacity by 20% would represent one or two additional TAVI procedures each week per centre. We think that with local and national collaboration this increase is achievable. Furthermore, we have created an algorithm that NHS trusts can use to work out the best approach locally."

"Since November 2020 the UK has been hit with further waves of COVID-19 which have led to extreme pressure on the NHS and additional delays to treatment. We expect that number of people waiting for treatment in recent months will be even higher than the figure we used in our study."

"Doing nothing is simply not an option. If we continue as we are, thousands of people will die from untreated aortic stenosis."

Resources needed

Dr. Sonya Babu-Narayan, Associate Medical Director at the British Heart Foundation and consultant cardiologist, says that they "welcome the use of innovative cardiovascular procedures that can reduce the need for open-heart surgery where appropriate and where their use will provide the greatest benefit to patients."

"But as this modeling study shows, even increased use of this quicker and less invasive procedure won't be enough to overcome the impact of COVID-19 related delays and stop people with AS dying while waiting for treatment."

"Cardiac care can't wait. The NHS desperately needs additional resources to help it tackle the backlog of care and ensure that heart patients receive the treatment and care they need."

More information: Christian Philip Stickels et al, Aortic stenosis post-COVID-19: a mathematical model on waiting lists and mortality, *BMJ Open* (2022). DOI: 10.1136/bmjopen-2021-059309

Provided by University of Leeds

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