

World-First Liver Transplant for Rare Blood-Clotting Disorder Offers New Approach in Managing Plasminogen Deficiency

King Faisal Specialist Hospital & Research Centre (KFHSRC) in Riyadh, Saudi Arabia, achieves new surgical milestone giving patients with rare disorder new hope

RIYADH, SAUDI ARABIA, July 28, 2025 /EINPresswire.com/ -- The King Faisal Specialist Hospital & Research Centre (KFHSRC) in Riyadh, Saudi Arabia, has announced the successful completion of the world's first [liver transplant](#) in a 22-year-old patient living with a rare form of [plasminogen](#) (a crucial protein found in blood plasma) deficiency, who has required specialist intervention from the hospital since birth.



The KFHSRC campus in Riyadh, Saudi Arabia

The transplant, conducted on the hospital's main campus in Riyadh, Saudi Arabia, marks a significant milestone not only in the patient's 22-year clinical journey with the hospital, but also for hepatic transplant surgery worldwide.

"Blood-clotting disorders of this nature are thankfully rare but historically have been challenged by limited clinical options to save and extend the life of such patients," said Dr Hazzaa Al-Zahrani, Director of Adult Hematology and Stem Cell Transplant at KFHSRC.

"Managing the case required a precise and long-term approach to prevent complications and ensure stability. The decision to proceed with a liver transplant came after acutely careful multidisciplinary consideration given its status as an extraordinary therapeutic option for this exceptionally rare case. The success of the procedure marks a turning point in her medical journey and presents a beacon of hope for patients facing similar conditions worldwide."

Plasminogen deficiency is an extremely rare inherited disorder triggered by mutations in the PLG gene, leading to reduced levels of the plasminogen protein, which is crucial for the breakdown of fibrin clots and wound healing. This deficiency can cause the formation of fibrin-rich, pseudomembranous lesions.



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*Dr Hazzaa Al-Zahrani,
KFHSRC*

Over the years of treatment, the patient relied on regular intravenous doses of plasminogen, along with eye drops to reduce the disease's effect on her vision. The annual cost of treatment exceeded 6 million SAR, a cost fully covered by the Saudi Government, reflecting the Kingdom's continued commitment to human health and investment in delivering quality of life even in the most complex medical cases.

The complexity of the patient's case posed both medical and quality-of-life challenges, requiring a comprehensive, multidisciplinary care system. This extended well beyond medical treatment to include all facets of life-supporting

care. KFHSRC teams from nursing, nutrition, and information technology joined haematology and transplant specialists to ensure the patient's wellbeing.

While no cure for plasminogen deficiency exists, treatments include plasminogen concentrate, provision of fresh frozen plasma, topical plasminogen eye drops and medications including heparin, corticosteroids, and immunosuppressants. The world-first transplant procedure now adds to the available clinical options for patient support.

The hepatic transplant surgery represents another breakthrough success for the Saudi Vision 2030 Health Sector Transformation Program, a key initiative launched by H.R.H Crown Prince Mohammed bin Salman, Prime Minister of the Kingdom. It stands as a testament to the quality of healthcare provided to all people in Saudi Arabia.

KFSHRC has been ranked first in the Middle East and Africa and 15th globally in the list of the world's top 250 Academic Medical Centres for the third consecutive year and recognised as the most valuable healthcare brand in the Kingdom and the Middle East, according to the 2025 Brand Finance rankings. Additionally, KFSHRC was included in the World's Best Smart Hospitals list for 2025 by Newsweek magazine.

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