MEDICAL BREAKTHROUGHS
RESEARCH SUMMARY

TOPIC: WORLD TRADE CENTER FIRST RESPONDERS: DOUBLE RISK FOR BLOOD CANCER
REPORT: **MB #5124**

BACKGROUND: Multiple myeloma is a cancer that forms in a type of white blood cell called a plasma cell. Healthy plasma cells help you fight infections by making antibodies that recognize and attack germs. In multiple myeloma, cancerous plasma cells accumulate in the bone marrow and crowd out healthy blood cells. Rather than produce helpful antibodies, the cancer cells produce abnormal proteins that can cause complications. This year, an estimated 34,470 adults (19,100 men and 15,370 women) in the United States will be diagnosed with multiple myeloma. Myeloma is less common than other types of blood-related cancers, such as leukemia and lymphoma. Worldwide, an estimated 176,404 people were diagnosed with multiple myeloma in 2020.
(Sources: https://www.mayoclinic.org/diseases-conditions/multiple-myeloma/symptoms-causes/syc-20353378#:~:text=Multiple%20myeloma%20is%20a%20cancer,crowd%20out%20healthy%20blood%20cells.
https://www.cancer.net/cancer-types/multiple-myeloma/statistics)

DIAGNOSING: Multiple myeloma often does not have early symptoms. This can make it difficult to diagnose in the beginning stages. Symptoms of multiple myeloma may include fractures, bone pain, fatigue and/or shortness of breath, confusion, numbness or weakness, leg swelling, appetite changes, frequent infection, and/or excessive thirst. To confirm a diagnosis, you might have blood tests including a complete blood count (CBC), it measures the different kinds of cells in your blood, or blood urea nitrogen (BUN) and creatinine, these check how well your kidneys are working.
(Source: https://www.mdanderson.org/cancer-types/multiple-myeloma.html)

NEW TECHNOLOGY: In 2021, the FDA approved idecabtagene vicleucel (Abecma®), and, in 2022, it approved ciltacabtagene autoleucel (also known as cilta-cel or Carvytki™). Both CAR T therapies target BCMA, and both approvals were for treating adults with relapsed or refractory (hard-to-treat) multiple myeloma. Newer trials, including at MSK, are testing CAR T therapy that targets a different protein, called GPRC5D. It's always important to have more than one antigen to target, especially if the drugs aimed at the first antigen stop working.
(Source: https://www.mskcc.org/news/multiple-myeloma-improved-prognosis-latest-treatments#:~:text=In%202021%2C%20the%20FDA%20approved,to%2Dtreat)%20multiple%20myeloma.)

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com