Trends In Immunotherapy And Survival Outcomes In Patients With Stage IV Cancer For Eight Major Cancers In The United States

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OBJECTIVES
• Report IO use for high-incident stage IV cancers over time
• Evaluate trends in stage IV cancer overall survival (OS) by cancer site

BACKGROUND
• Late-stage cancers have poor survival
• Recent advances in immunotherapy (IO) have transformed the management of certain historically hard-to-treat cancers
• It is unclear how IO and survival have evolved in individual advanced cancers

METHODS
• Patients diagnosed with stage IV prostate, breast, melanoma, colorectal, kidney, bladder, lung, or pancreas cancer (2004-2020) were identified from The National Cancer Database
• Kaplan-Meier methods estimated OS
• Absolute differences in 3-year OS and IO rates from periods 1 to 3 allowed for comparison among cancer sites

RESULTS
• N = 1,425,731 patients
• Median follow-up 7.8 months

CONCLUSION
• The 3- and 5-year survival of stage IV cancers has improved over time, though there is diverse progress among cancer sites
• IO use for stage IV cancers has increased over time, though less so in pancreas, prostate, and bladder cancer
• Melanoma’s notable improvement in survival is likely due to immunotherapy advancements

Figure 1. Kaplan-Meier Curves Estimating Overall Survival in Patients with Stage IV Cancers, by Time Period
Figure 2. Immunotherapy Use By Tumor Site Per Time Period
Figure 3. Trends In 3-year Overall Survival Rates In Patients With Stage IV Cancer By Tumor Site