Author: Kalyan Naik Gangothulu

Co-Author: Pampatti Anvesh sai

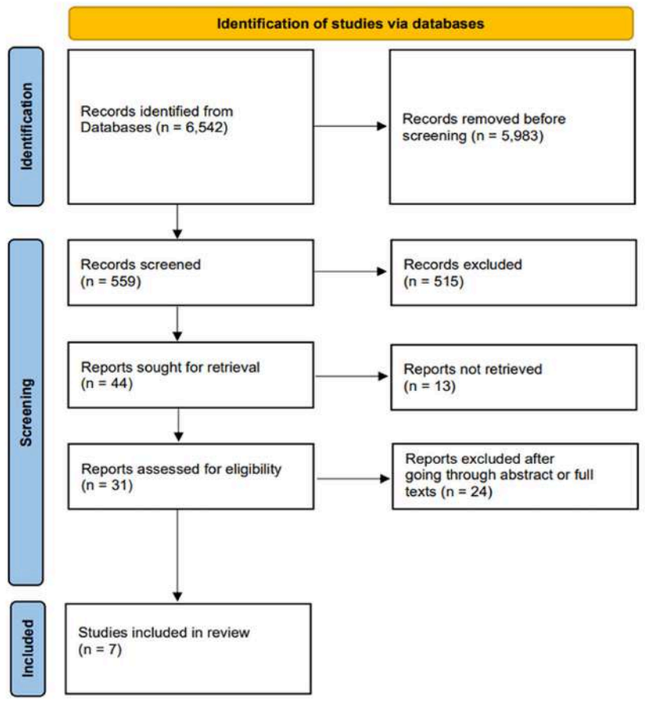
Institute: Katuri Medical College and Hospital, Guntur, Andhra Pradesh, India.

Email: pampattianvesh@gmail.com

Mobile no: +91 9705704234

WT1 Cancer Vaccine in Advanced Pancreatic Cancer: A Systematic Review

ABSTRACT : Advanced pancreatic cancer is one of the prominent contributors to cancer-related mortality globally. Chemotherapy, especially gemcitabine, is generally used for the treatment of advanced pancreatic cancer. Despite the treatment, the fatality rate for advanced pancreatic cancer is alarmingly high. Thus, the dire need for better treatment alternatives has drawn focus to cancer vaccinations. The Wilms tumor gene (WT1), typically associated with Wilms tumor, is found to be excessively expressed in some cancers, such as pancreatic cancer. This characteristic feature is harvested to develop cancer vaccines against WT1. This review aims to systematically summarize the clinical trials investigating the efficacy and safety of WT1 vaccines in patients with advanced pancreatic cancer. An extensive literature search was conducted on databases Medline, Web of Science, ScienceDirect, and Google Scholar using the keywords "Advanced pancreatic cancer," "Cancer vaccines," "WT1 vaccines," and "Pulsed DC vaccines," and the results were exclusively studied to construct this review. WT1 vaccines work by introducing peptides from the WT1 protein to trigger an immune response involving cytotoxic T lymphocytes via antigen-presenting cells. Upon activation, these lymphocytes induce apoptosis in cancer cells by specifically targeting those with increased WT1 levels. WT1 vaccinations, which are usually given in addition to chemotherapy, have demonstrated clinically positive results and minimal side effects. However, there are several challenges to their widespread use, such as the immunosuppressive nature of tumors and heterogeneity in expression. Despite these limitations, the risk-benefit profile of cancer vaccines is encouraging, especially for the WT1 vaccine in the treatment of advanced pancreatic cancer. Considering the fledgling status of their development, large multicentric, variables-matched, extensive analysis across diverse demographics is considered essential.



References:

1.Stathis A, Moore MJ: Advanced pancreatic carcinoma: current treatment and future challenges. Nat Rev Clin Oncol. 2010, 7:163-72. 10.1038/nrclinonc.2009.236
2.Ryan DP, Hong TS, Bardeesy N: Pancreatic adenocarcinoma. N Engl J Med. 2014, 371:1039-49. 10.1056/NEJMra1404198
3.Burris HA 3rd, Moore MJ, Andersen J, et al.: Improvements in survival and clinical benefit with gemcitabine as first-line therapy for patients with advanced pancreas cancer: a randomized trial. J Clin Oncol. 1997, 15:2403-13. 10.1200/JCO.1997.15.6.2403

Presenting Author Details:

NAME: Pampatti Anvesh Sai
Category: Poster
Social Link : Linked-in- Anvesh Sai Pampatti