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## Stem cell derived extracellular vesicle based therapeutics for liver diseases

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Stem cell-based therapies have potential for treatment of solid organ injury by contributing to regenerative responses, through functional tissue replacement or paracrine effects. The release of extracellular vesicles (EV) from cells has been implicated in intercellular communication, and may contribute to beneficial paracrine effects of stem cell-based therapies. Therapeutic effects of bone-marrow derived mesenchymal stem cells and vesicles released by these cells have been examined in models of hepatic injury and hepatic failure. These studies support a critical role for stem cell-derived EV in reparative responses following hepatic injury, thereby supporting their development for therapeutic use.

### Biography

Tushar Patel is the James C and Sarah K Kennedy Dean for Research. He is a Professor of Medicine and Professor of Cancer Biology at the Mayo Clinic College of Medicine and Science, and a Consultant in the Department of Transplantation at Mayo Clinic in Florida. His research studies have focused on the study of cellular nanovesicles and non-coding RNA, and he has published extensively as an author or co-author of more than 140 peer-reviewed articles that have been cited for more than 13,000 times. His research program incorporates basic discovery studies aimed at understanding the molecular mechanisms of cancer formation in the liver and bile ducts, with translational studies that seek to identify novel biomarkers for these cancers, and to improve therapeutic responses.

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