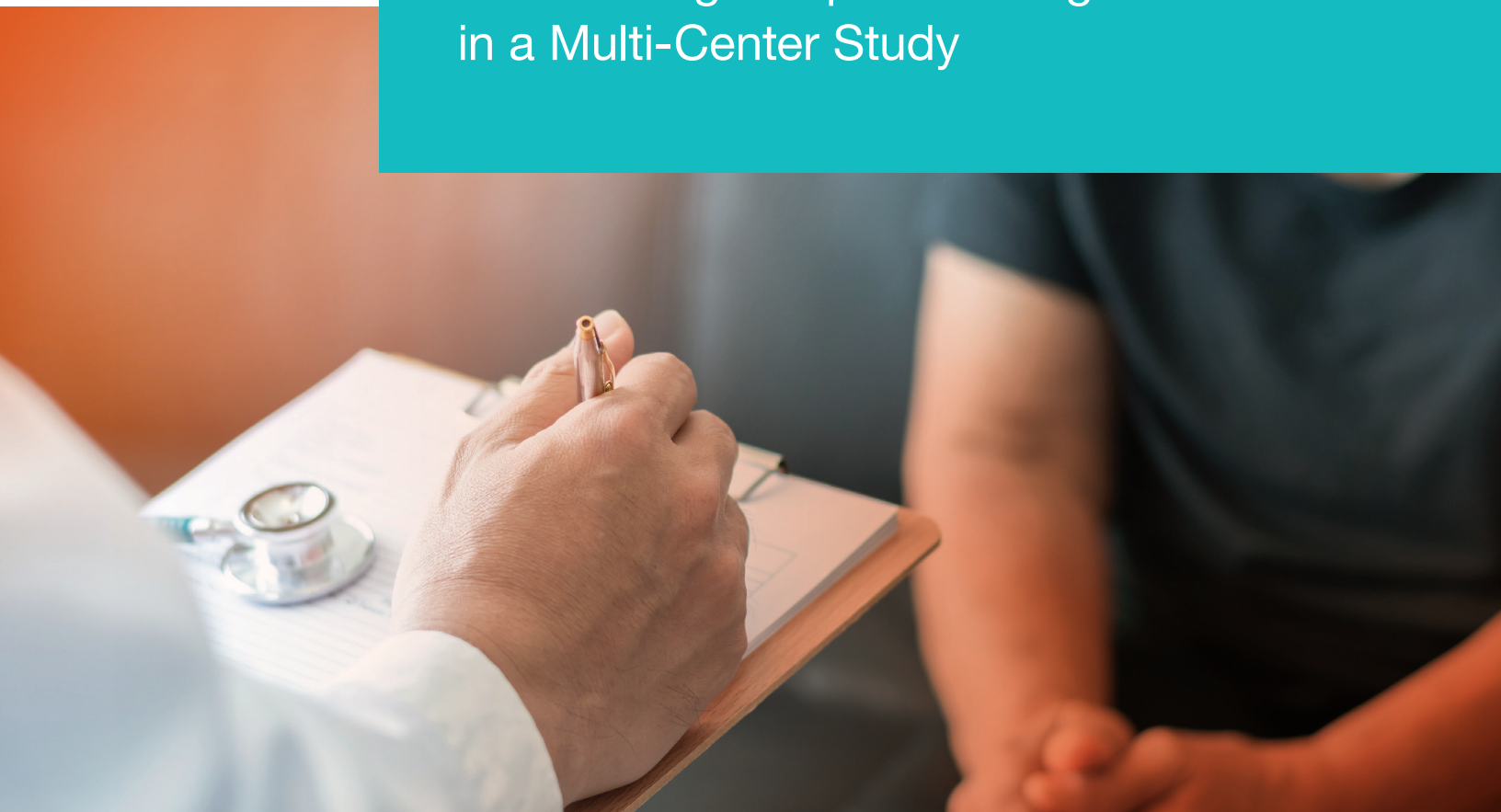
› CASE STUDY

VERISTAT

Stem Cell Therapy in Stroke Victims

Overcoming Unique Challenges in a Multi-Center Study



Background: Leading the Way Through Many Unique Challenges

A client engaged the Veristat team in a Phase II study of intracerebral stem cell injection in patients following an ischemic stroke. The goal was to look at limb recovery time and level in patients with stroke. The effort began with identifying the best time for a product to be delivered and then expanded into full-service involvement, including project management, clinical monitoring, monitoring, safety, medical monitoring, medical and regulatory affairs.

Study Demographics

Phase II Multi-Center Efficacy Study

Primary Services Provided:

- Project Management
- Clinical Monitoring
- Medical Writing
- Regulatory Affairs

SOLUTION

Our charge was to determine whether a sufficient proportion of patients experience response of their paretic arm following treatment with the therapy at a dose level of 20 million cells to justify a subsequent randomized study. The Veristat team had to overcome a number of markedly unique challenges.

Recruitment	**Eligibility testing**	**Manual Case Report Forms**
Patient privacy	**Ethics & legal concerns**	**Logistics**

Recruitment

Stroke patients are consistently in high demand for clinical studies. Recruitment for this program was made all the more challenging because it involved neurosurgery to deliver the cell product directly into the brain using stereotaxic intracranial implantation, requiring a burr-hole craniotomy and delivery via a long needle. Patients were hesitant to sign up. Media advertising and documentary exposure helped to raise the profile of the program to meet recruitment goals.

Another recruitment challenge was that early-stage stroke patients tend to believe they will see recovery in 4-6 months post-stroke, and therefore are unwilling to undergo the perceived severity of brain surgery. But the earlier the treatment post-stroke, the higher the likelihood of recovery based on pre-clinical data. Veristat worked with KOLs and investigators to redesign the inclusion and exclusion criteria to 12 months. We also amended the protocol and revised recruitment timelines based on KOL/investigator feedback. These steps collectively increased recruitment.

Eligibility testing

The study required human leukocyte antigen (HLA) testing to ensure patients would not have an immune rejection to the treatment. HLA testing had to be done before eligibility testing, which was time consuming and required more pre-treatment study visits. It was a challenge to keep patients engaged, and some enrolled patients were rejected during this process.

Manual CRF

The use of a paper Case Report Form (CRF) presented many challenges. Completion guidelines were unclear and our team had to manage a huge volume of paper queries and manage complex data, including fluctuating surgical concurrent medications. To add to the challenge, the sponsor wanted to review data early on. We worked closely with the client's Data Management vendor to streamline the process and ensure nothing fell through the cracks, creating a tracking system and visiting sites to review each and every paper query. The outcome: we achieved database lock on time with robust CRF completion guidelines.

Patient privacy

There was a lot of national publicity in the UK for the study due to the involvement of stem cell / neurosurgery. The BBC even filmed one surgery for a stem cell documentary. This improved recruitment, but led to much greater concerns for data and patient privacy, as well as the need for additional consents.

Ethics & legal

Veristat was involved from the beginning of Phase II and supplied the client with a full-service offering including regulatory affairs. Given the study's use of fetal stem cells, there were many ethics and legal questions we had to address before the study could move forward. Our team reviewed documents – especially the CMC – and worked diligently to proactively address regulatory concerns around the ethical gathering of fetal stem cells and intracranial implantation.

Logistics

The stem cell product arrived in frozen form – the Veristat team had to be ready for this 1-2 days before the surgery. Once it arrived, the product had to go through a variety of checks to ensure it was intact, not contaminated, and up to quality standards before being put back into storage until surgery day. Additionally, the product had a 60-minute expiration time after thaw, so it was absolutely essential for the patient to be under anesthetic with a stereotactic frame fitted and for the surgeon to be ready. Communications between the surgeon and pharmacy about when to begin thaw and transport were critical. We managed all logistical details and conducted many dummy runs with the sites at multiple points.

Doing what it takes to get it right

One weekend, during off hours, a study patient was in surgery, under anesthesia. The product was thawing and there was a power outage at the hospital. All communications between the pharmacy and operating room were cut off as they were on separate generator systems, and communications were not working. Veristat stepped in to remotely manage communications until the power came back on.

IMPACT

Veristat Selected for ALL of the Client's Cell and Gene Therapy Programs

- We delivered on time and on budget
- The client has now published positive Phase IIa data
- Veristat is now partnering with the client on all their cell and gene therapy programs, including an ongoing ophthalmology cell therapy project in the US that involves legal and FDA submission support

ABOUT VERISTAT

The Cell and Gene Therapy Partner of Choice

We understand how high the stakes are with your cell and gene therapy program. We know that nothing is standard about study design, study conduct or regulatory process in this specialized area. Veristat has successfully supported more than 100 cell and gene therapy projects, with a global team of scientific experts who are adept at strategy and execution across the clinical development pathway. Learn more about Veristat and how we can assist you with your cell or gene therapy trial development, execution, and regulatory submission preparation.

Contact Veristat Today

Learn more about our patient recruitment, consulting, data analysis, or regulatory expertise.

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