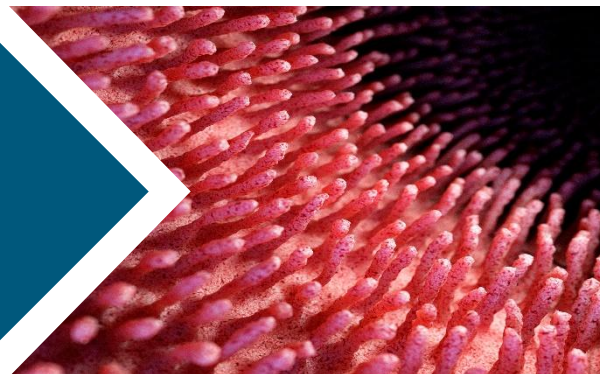




Safe Injection Device for Endoscopic Treatment of Gastric Varices.

Three-way key with non-return valves and locking system for continuous and immediate injection of bioadhesives.



Medical Need

Gastric varices secondary to portal hypertension carry a high risk of rupture and elevated mortality rates.

Current techniques require extremely rapid syringe swapping to flush cyanoacrylate with saline before polymerization.

Any delay during syringe exchange leads to irreversible catheter occlusion and potential fatal complications.

Opportunity

Prevalence



20% of patients with portal hypertension, with a rebleeding risk and mortality of up to 45%

Market



Global endoscopy and hemostasis devices market: > \$5 billion with continued growth.

Other solutions:



Conventional direct injection systems: lack non-return valves, require manual syringe disconnection, high occlusion risk.

Technology

Y-shaped three-way stopcock featuring two independent inlets and a single outlet connected to the catheter.

Check/non-return valves on each inlet channel preventing fluid backflow and cross-contamination between syringes.

Push-button locking mechanism with two positions (open/closed) for precise fluid flow control.

Results

Functional prototype designed to ensure ergonomic dual-syringe operation simultaneously.

Proof-of-concept validation for unidirectional flow and sealing integrity of the safety mechanism.



Roadmap

IBIMA BIONAND platform is looking for a partner to further develop the technology through a co-development or licensing agreement.



Utility Model:

Priority Request: U202630219

Priority: 03/02/2026



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