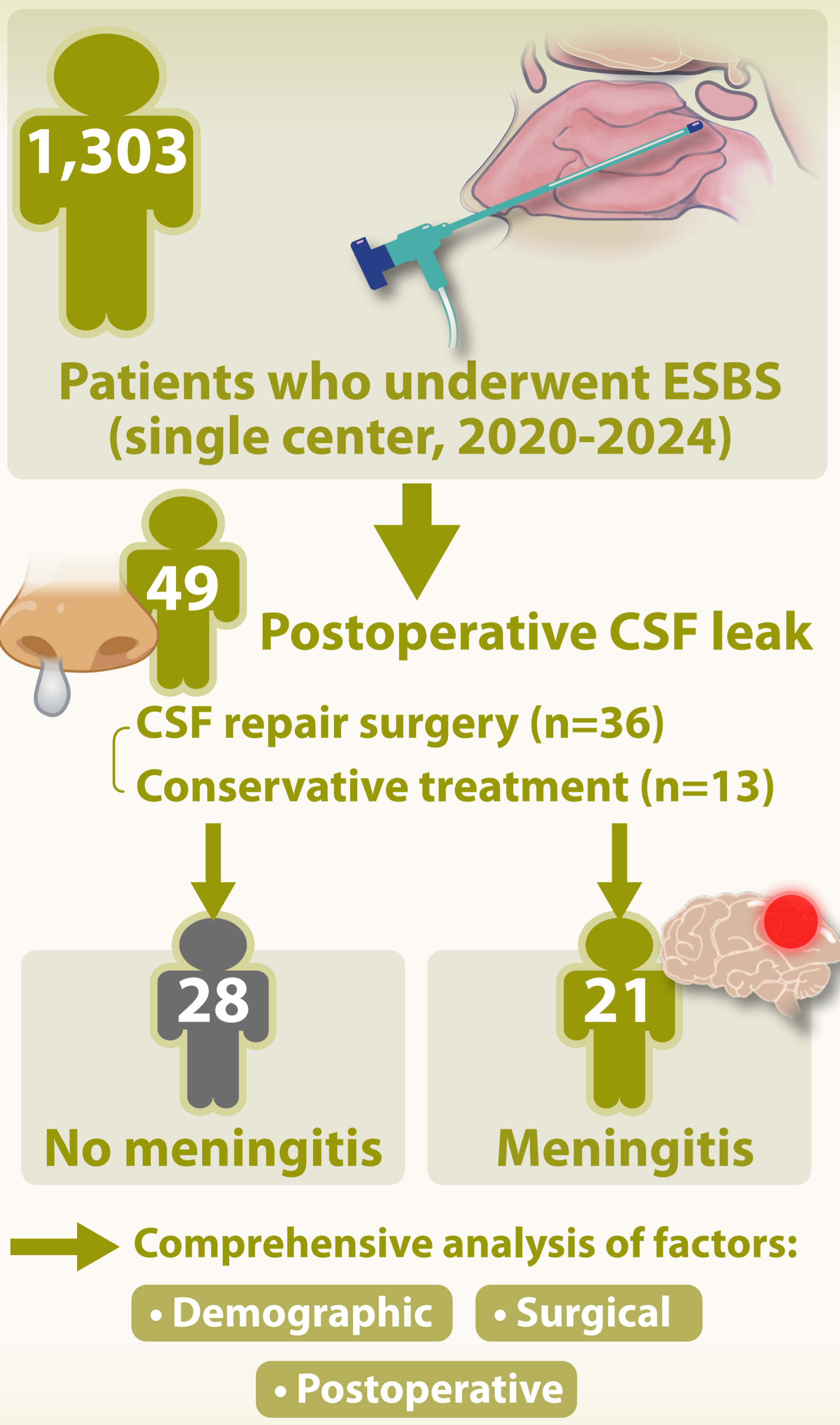


From postoperative cerebrospinal fluid leak to meningitis:

Unveiling the risk factors for meningitis after endoscopic skull base surgery (ESBS)



Key findings

Risk factors for postoperative CSF leak (p < 0.05)

- High-flow intraoperative CSF leak (Grade III): **OR 3.85** (vs Grade 0)

Risk factors for meningitis in patients with postoperative CSF leak (meningitis vs no meningitis)(p < 0.05)

- High-flow intraoperative CSF leak (Grade III): **OR 3.21** (vs Grade 0)
- Fat graft use (42.9% vs 3.6%)
- Prophylactic lumbar drain insertion (33.3% vs 7.1%)
- Longer time to CSF leak recognition (17.1 vs 8.6 days)
- Absence of subjective CSF leak symptoms (28.6% vs 0%)

Patients with high-risk features:

- High intraoperative leak grade (Grade III)
- Fat graft use
- Prophylactic lumbar drain insertion



→ Early detection is essential to prevent meningitis

→ Patient education & regular rhinology follow-up are essential