Aim: To demonstrate that in patients with abdominal sepsis, delayed primary fascial closure and definitive abdominal wall repair can be achieved, in the same hospitalization, using combined therapies, which reduces the percentage of ventral hernias.

Material and Methods: Medical records, tomography images and outpatient controls of 9 patients were reviewed, which required open abdomen management for abdominal sepsis using negative pressure therapy combined with a dynamic fascial mesh traction, from February 2020 until May 2021.

Results: 9 patients (2 men and 7 women), all Grade 2C open abdomen according to Björck classification, with a median age of 43 years (25-71). The median time therapy was 29 ± 3 days. The primary fascial closure rate was 100% (n = 9), 77.8% (n = 7) underwent a definitive repair of the abdominal wall with absorbable synthetic mesh in the same hospitalization, while 22.2% (n = 2) did not, due to being cancer patients. The mortality rate was 11.1% (n = 1) due to pneumonia and the fistula rate was 11.1% (n = 1). None developed an incisional hernia at the one-year follow-up.

Conclusions: The combination of negative pressure therapy with dynamic fascial mesh traction, in the management of the open abdomen, allows us to achieve a 100% delayed primary fascial closure, avoiding ventral hernia. In the same hospitalization, while the patient leaves the critical stage, we can achieve a definitive repair of the abdominal wall using absorbable synthetic meshes returning the biomechanics to the abdominal wall, improving the quality of life of these patients.