Introduction/Background Cervical cancer (CC) is one of the leading cancer by incidence/mortality in women worldwide. Highest incidence/mortality rates are recorded in low-income countries, including sub-Saharan-Africa, Melanesia, South-America and South-Eastern-Asia. This disproportionately in incidence/mortality rates compared to transitioned countries reflects the effective global cancer services variation.

Surgery, radiotherapy and chemotherapy in an integrated approach are necessary to treat CC as part of a management of evidenced-based effective care. These approaches aren’t interchangeable, but complementary and an increasing number of patients is best treated with at least two modalities. Around the world, there are still severe limitations in access to cancer care and especially radiotherapy services are scarce. To overcome regional and global large disparity, ASCO includes i) the effective global cancer services variation. ii) the risk of nerve fibers damage remains high because of difficulties in recognition of elements of the autonomic nervous system. One of approaches for precise nerve dissection is tissue-selective dissection with a water-jet. This study was aimed to evaluate functional results after nerve sparing radical hysterectomy (RH type C1) in patients with stage IB1-IIA cervical cancer according to the International Federation of Gynecology and Obstetrics (FIGO 2018) staging system.

Methodology The study included 193 patients with morphologically verified cervical cancer IB1-IIB stages. The main group consisted of 62 patients who underwent nerve-sparing radical hysterectomy (type C1) with pelvic and para-aortic lymphadenectomy using the water jet dissection. Control group A consisted of 79 patients who underwent nerve-sparing radical hysterectomy (type C1) with pelvic and para-aortic lymphadenectomy. Control group B consisted of 52 patients who underwent radical hysterectomy (type C2) with pelvic and para-aortic lymphadenectomy.

Results The use of the water jet dissection method in the main group made possible to reduce the time to removal of the urethral catheter (4.5 days vs. 6.9 and 12.1 days), as well as to minimize the time for restoring urination according to the residual urine volume criterion less than 100 ml (5.6 day vs 10.2 and 21.2 days) (<0.001). In the main group none of the patients in the postoperative period showed clinical signs of neurogenic bladder dysfunction.

Conclusion The results suggest that using the water-jet technique in tissue incision contributes to the mostatraumatic dissection of the autonomic nervous system. Thus, the proposed method makes it possible to avoid thermal degeneration of the nerves and preserve the functional integrity of the nerve plexus.