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# Gynecologic Oncology

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## Robotic nerve-sparing radical hysterectomy for locally advanced cervical cancer after neo-adjuvant chemotherapy

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**Objective:** To evaluate the feasibility and safety of robotic nerve-sparing radical hysterectomy for Locally Advanced Cervical Cancer (LACC).

**Methods:** In a retrospective study, data were analyzed for patients treated for cervical cancer at a center in Beijing, China, between December 2011 and September 2013. Patients were subdivided into those with early-stage disease (FIGO stage IA2–IB1) who were treated by robotic surgery (group 1), and those with LACC (stage IB2–IIB) who were treated by robotic surgery after neo-adjuvant chemotherapy (NACT). Therapeutic outcomes and complications were compared.

**Results:** Group 1 included 32 patients and group 2 included 22 patients. Two patients in group 2 did not respond to NACT and did not undergo surgery. The operative outcomes and incidences of complications did not differ significantly between the two groups ( $p > 0.05$  for all). There were no differences in nodal yield, lengths of parametrium removed, or vaginal cuff length ( $p > 0.05$  for all). During a mean follow-up of 26 months, no patient experienced recurrence.

**Conclusion:** Robotic nerve-sparing radical hysterectomy was found to be feasible and safe for LACC after NACT. A larger case series with longer follow-up data is needed to justify its widespread application.

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## Laser induced breakdown spectroscopy (LIBS) in cervical cancer screening: A proposed tool

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**Objective:** Cervical cancer, one of the few highly preventable cancers through successful screening, is the most common cause of death from cancer in women in the developing world. This brief hypothesis postulates a screening tool aimed to have a real time screening of cervical cancer using LIBS modality.

**Methods:** Laser Induced Breakdown Spectroscopy (LIBS) is a spectrochemical method for determining the elemental composition of various samples present in any phase, by simultaneously vaporizing and exciting the sample and thus it improves the spectrochemical techniques by eliminating the requirement of sample pre-treatment. LIBS system focuses a high peak power laser pulse onto a targeted material to produce a laser spark or microplasma. Elemental line spectra is created, collected and analyzed by a fiber spectrophotometer since nano- to micro-grams of material are ablated in femto- to nano-seconds (depending on the laser pulse duration), the whole process can be considered as minimally destructive and real time.

**Results:** The postulated hypothesis is aimed to use laser induced breakdown spectroscopy (LIBS) in the screening of cervical cancer as trace mineral elements act as biological signature in tissues like bones, teeth, hair, blood, etc., from the living phase and store information regarding habitat, nutrition, and other environmental conditions. Previous researches have shown significant differences in concentrations of trace elements between normal and cancerous tissue cells.

**Conclusion:** The technique is exemplified by suggested use of LIBS in studying biological samples such as tissues, gall stones, biological aerosols and *in vivo* cancer detection.

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