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Oncological outcomes following robotic-assisted radical prostatectomy in a multiracial Asian population

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This study evaluates the oncological outcomes of RARP in a multiracial Asian population from a single institution. All suitable patients from 1st January 2003-30th June 2013 were identified from a prospectively maintained cancer registry. Peri-operative and oncological outcomes were analyzed. Significance was defined as $p<0.05$. There were n=725 patients identified with a mean follow-up duration 28 months. The mean operative time, EBL and LOS were 186 min, 215 ml and 3 days, respectively. The pathological stage was pT2 in 68.6% (n=497/725), pT3 in 31.3% (n=227/725) and n=1 patient with pT4 disease. The pathological Gleason scores (GS) were 6 in 27.9 % (n=202/725), GS 7 in 63.6 % (n=461/725) and GS≥8 in 8.0% (n=58/725). The node positivity rate was 5.8 % (n=21/360). The positive margin rates were 31.0% (n=154/497) and 70.9 % (n=161/227) for pT2 and pT3, respectively and decreasing PSM rates are observed with surgical maturity. The biochemical recurrence rates were 9.7% (n=48/497) and 34.2% (n=78/228) for pT2 and pT3/T4, respectively. On multivariate analysis, independent predictors of BCR were pathological T-stage and pathological Gleason score. Post-operatively, 78.5% (n=569/725) of patients had no complications and 17.7% (n=128/725) had minor (Clavien grade I-II) complications. This series, representing the largest from Southeast Asia suggests that RARP can be a safe and oncologically feasible treatment for localized prostate cancer in an institution with moderate workload.

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Role of microvesicles derived from glioblastoma on resistance and cell transformation

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Glioblastoma (GBM) is the most common astrocytoma and one of the most aggressive and lethal human malignancies. Patients with GBM have a median survival of 12 months. Recurrence and tumor progression are related to chemo- and radioresistance and occurs in the majority of the cases. Numerous mechanisms contribute to GBM resistance, including ABC transporters expression, EGFR amplification, and EGFR mutation such as variant III (EGFRvIII). Studies have shown that these molecules can be identified in circulating microvesicles (MVs) secreted by patients. Here, we isolated MVs from peripheral blood samples obtained from sixteen patients with astrocytomas. Only nine of these samples were confirmed as astrocytomas, three were classified as metastasis, three as oligoastrocitomas and one as oligodendroglioma. Among the cases studied, two patients died. In addition, we analyzed the cellular transformation ability of MVs secreted by GBM cells treated with ionizing radiation (IR) or temozolomide (TMZ) in human fibroblast (HF) cells. Our data showed that MVs secreted by GBM cells were able to carry and transfer EGFR protein to HF cells. Moreover, MVs secreted by IR- or TMZ-treated GBM cells induced highest apoptosis resistance in HF cells than MVs secreted by untreated cells. However, activation of ERK1/2 pathway, determined by phosphorylation of ERK, an increased expression of YB-1 and a greater proliferation index, were prominent in HF cells co-cultured with MVs secreted by IR-treated GBM cells. This study will elucidate the role of MVs on tumorigenesis and chemo- and radioresistance mechanisms, promoting advances on efficacy of GBM patients treatment.

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