integrate inpatient/outpatient clinical data, genomic data, as well as out-of-hospital follow-up data (e.g. LinkDoc call center) for developing a patient (pt)-level longitudinal clinico-genomic database in a HIPAA-compliant manner. The de-identified structured and unstructured data were extracted from electronic medical records (EMR) or other data sources (third-party genetic-testing company databases) via technology-aided manual abstraction. Rigorous data consistency check was performed daily by duplicate manual review to ensure the accuracy of data entry. The multi-source data were then linked and aggregated using a unique ID. Medical review for pt-level data was further conducted to ensure data quality.

Results: Up to May 2020, nine tertiary hospitals from 9 provinces or cities participated in the NUWA project, resulting in inpatient EMR data of 8486 ovarian cancer (OC) pts. The clinico-genomic data of 1114 OC pts were available and more genomic data are on the way. Of 8486 OC pts, 5942 (70.1%) received at least one follow-up phone call. The median follow-up time was 515 (range: 1-4993) days. In December 2021, 30 tertiary hospitals will collaborate on the platform that cover 19 provinces or cities in China, with estimated clinico-genomic data of over 60000 GO pts.

Conclusions: We present a new paradigm for rapidly aggregating multi-dimensional data into a large, scalable longitudinal clinico-genomic database in China. NUWA project will catalyze data sharing across China and thereby enable precision medicine in the field of GO.

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**Table: 240MO**

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank incidence death</th>
<th>Incidence %</th>
<th>No. Cancer specific death rate</th>
<th>No. Total cases</th>
<th>No. of applications per year</th>
<th>No. of BT units</th>
<th>Required No. Application / Day/unit if all RT Centres had Inhouse BT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRICA</td>
<td>2 ; 1</td>
<td>11.3</td>
<td>119284</td>
<td>11.8</td>
<td>81687</td>
<td>220</td>
<td>330</td>
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<tr>
<td>INDIA</td>
<td>3 ; 4</td>
<td>8.4</td>
<td>96992</td>
<td>7.70</td>
<td>60078</td>
<td>374</td>
<td>636</td>
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<tr>
<td>ENGLAND</td>
<td>21;22</td>
<td>.77</td>
<td>3430</td>
<td>.58</td>
<td>1033</td>
<td>349</td>
<td>334</td>
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<tr>
<td>GERMANY</td>
<td>21;22</td>
<td>.76</td>
<td>4608</td>
<td>.80</td>
<td>2011</td>
<td>543</td>
<td>81</td>
</tr>
<tr>
<td>USA</td>
<td>22;19</td>
<td>.66</td>
<td>14065</td>
<td>.85</td>
<td>5266</td>
<td>2153</td>
<td>3842</td>
</tr>
<tr>
<td>AUSTRALIA</td>
<td>24;21</td>
<td>.47</td>
<td>924</td>
<td>.67</td>
<td>331</td>
<td>98</td>
<td>221</td>
</tr>
</tbody>
</table>

Results: See table 240MO

Conclusions: The high incidence of cervical cancer in certain regions could be attributed to the varying outreach of screening programs and HPV vaccination, however, high mortality due to cervical cancer, although multifactorial appears to be linked to the deficient infrastructure for optimal radiotherapy management. We suggest that by housing all EBRT centres with BT units, especially in the high incidence countries, treatment quality can be improved, eventually leading to lower mortality rates due to cervical cancer.

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**241MO** Survival impact of pretreatment absolute lymphocyte count in cervical cancer patients receiving definitive chemoradiation


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Background: Lymphopenia has been suggested to reflect low host immune reactivity. Studies have shown that baseline lymphopenia is associated with poor prognosis in various malignancies. The impact of pretreatment lymphocyte count on survival in cervical cancer patients is investigated in this study.

Methods: A consecutive cohort of non-metastatic cervical cancer patients who completed definitive chemoradiation from January 2009 to December 2014 was included. Patients were restaged according to the 2018 International Federation of Gynecology and Obstetrics (FIGO) staging system. Patients with active infection and autoimmune conditions were excluded. Definitive treatment included a combination of external radiotherapy and brachytherapy with concurrent weekly cisplatin 40mg/m². Baseline clinical information and pretreatment blood tests were collected. Log rank tests and multivariable Cox regression were used to evaluate the association between haematological parameters and survival. Study endpoints were overall survival (OS), recurrence free survival (RFS), and late radiation-induced grade 3-4 toxicity.

Results: Median follow-up was 6.52 years with a total of 198 eligible cases in our study. Multivariate analysis confirmed pretreatment lymphocyte count to be an independent predictor of OS (hazard ratio 0.47; 95% confidence interval 0.25 – 0.88, p = 0.018) and RFS (hazard ratio 0.58; 95% confidence interval 0.34 – 0.99, p = 0.046), adjusted for age, stage, histology, Charlson comorbidity score and cumulative cisplatin dose. Lower pretreatment absolute lymphocyte count (<1.7x10^9) was associated with significantly worse 5-year OS (68.7% vs 84.4%, p = 0.005). Lymphocyte count was not associated with late grade 3-4 radiation toxicity.

Conclusions: Pretreatment lymphocyte count is an independent predictor of both OS and RFS in cervical cancer patients receiving definitive chemoradiation. It should be considered as an integral component for building prognostic models for cervical cancer patients in future.

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