

clinically relevant outcomes of overall survival and QoL. Furthermore, currently available evidence has failed to prove that PFS reliably predicts outcomes that are clinically relevant. Despite this, osimertinib has been given marketing authorization and is widely recommended in clinical guidelines.

### PP255 Epigenetic Profile Predicts Response To Immunotherapy In Patients With Non-Small-Cell Lung Cancer: An Early Assessment

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**Introduction.** Epigenetics is an innovative discipline that aims to provide biomarkers to aid in early diagnosis, patient risk classification, or outcome prediction. The identification of therapeutic targets is of particular interest in cancer therapy for selecting groups of patients who may benefit most from an intervention. Understanding the relationships between the immune system and tumor cells has led to new immunotherapy-based therapies that provide a promising alternative to conventional cancer therapies. The aim of this study was to conduct an early assessment of a novel epigenetic signature (EPIMMUNE) that could predict response to programmed cell death protein 1 (PD-1) inhibitor immunotherapy in patients with non-small cell lung cancer (NSCLC).

**Methods.** We identified the novel epigenetic signature EPIMMUNE through the Early Awareness and Alert System, “SINTESIS-new technologies” of the Agencia de Evaluación de Tecnologías Sanitarias in Spain (AETS-ISCIII). A literature search of PubMed, Embase, the Web of Science, the Trip database, the International Clinical Trials Registry Platform, ClinicalTrials.gov, The Cochrane Library, and the Centre for Reviews and Dissemination databases was conducted. Clinical studies on EPIMMUNE published in English or Spanish up to August 2019 were reviewed.

**Results.** Only one retrospective study was found. Identification of EPIMMUNE was accomplished through interrogation of the DNA methylation status of CpG sites in 142 samples from adult patients with NSCLC who were treated with PD-1 inhibitors. EPIMMUNE was defined by 301 CpG sites whose methylation status was significantly associated with clinical response (progression-free and overall survival). No studies assessing the long-term clinical utility, impact on therapeutic decision making, or economic implications of EPIMMUNE were found.

**Conclusions.** The EPIMMUNE signature could provide an accurate and valid biomarker for identifying patients with NSCLC who may benefit from treatment with PD-1 inhibitors. However, the technology is under development, and there is only a single study on detecting the EPIMMUNE epigenetic profile and identifying the DNA methylation profiles associated with increased survival after PD-1 inhibitor therapy. More diagnostic accuracy studies and prospective, long-term trials are needed to evaluate the clinical impact this technology may have on

therapeutic decision making. Given the limited evidence available, further research is needed before the technology can be disseminated.

### PP256 Cost-Utility Analysis of Robot-Assisted Partial Nephrectomy Versus Open Or Laparoscopic Radical Nephrectomy In Korean Patients With Renal Cancer

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**Introduction.** Partial nephrectomy is recommended over radical nephrectomy for the surgical treatment of patients with stage cT1 renal cancer in multiple guidelines. The objective of this study is to examine the cost effectiveness of robot-assisted partial nephrectomy (RAPN), compared with open radical nephrectomy (ORN) or laparoscopic radical nephrectomy (LRN), for treating stage cT1 renal cancer in Korea.

**Methods.** A Markov model was applied in patients with cT1 renal cancer that consisted of the following six health states: post-surgery, normal, chronic kidney disease (CKD), dialysis, death from renal failure, and natural death. Utilities and transition probabilities were obtained from systematic literature reviews. Costs were obtained from the current Korean National Health Insurance fee schedule, the Korean medical literature, and 2016 Health Insurance Review and Assessment Service inpatient claims data. Univariate and probabilistic sensitivity analyses were performed to check for uncertainty.

**Results.** RAPN was the dominant treatment, costing KRW 2.1 to 3.6 million (USD 1,700 to 2,900) less than the comparators while providing 0.45 to 0.61 more utility. Univariate sensitivity analysis showed that the most sensitive parameter was the relative risk reduction of CKD after partial nephrectomy. The sensitivity analysis also showed that the acceptability of RAPN at a cost-effectiveness threshold of KRW 30.5 million was high relative to both comparators (85.9% against LRN and 78.9% against ORN).

**Conclusions.** Though there might be uncertainties in non-Korean utility data and some transition probabilities derived from Japanese data, the current study suggested that partial nephrectomy is a more cost-effective option than ORN or LRN in Korea for patients with stage cT1 renal cancer.

### PP262 PapSEEK: Liquid Biopsy For Endometrial And Ovarian Cancer Screening

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**Introduction.** Endometrial and ovarian cancer are the first and second leading causes of death from gynecological cancer in

Spain. Survival is generally determined by stage at diagnosis, but there is no test currently used for early detection of both tumor types. PapSEEK is a test developed to diagnose endometrial and ovarian cancer by detecting aneuploidies and somatic mutations commonly associated with both tumor types through DNA next-generation sequencing (NGS) of liquid from Papanicolaou test (Pap smear) samples. The objective of this work was to assess the effectiveness and safety of PapSEEK.

**Methods.** PapSEEK was identified by the Early Awareness and Alert System, “SINTESIS-new technologies”, of the Agencia de Evaluación de Tecnologías Sanitarias in Spain (AETS-ISCIH). An early assessment of the technology was conducted through a literature search of the following databases: PubMed, Embase, the Web of Science, the Trip database, the International Clinical Trials Registry Platform, ClinicalTrials.gov, and The Cochrane Library. Clinical studies on the effectiveness and safety of PapSEEK published up to February 2019 were reviewed.

**Results.** The evidence comprised proof of concept and diagnostic accuracy studies, which showed good preliminary results regarding the accuracy of the test for diagnosing endometrial cancer (sensitivity ranged from 0.81 to 0.93), but not for ovarian cancer (sensitivity ranged from 0.33 to 0.45). The specificity for both tumor types ranged from 0.99 to 1.00. Since PapSEEK uses a sampling method that is routinely used in clinical practice (the Pap smear), no evidence was found in the literature on the safety of the test.

**Conclusions.** PapSEEK is a novel technology developed to diagnose endometrial and ovarian cancer by means of DNA-NGS of Pap smear samples. The identified studies showed good preliminary results regarding the ability of the test to diagnose endometrial cancer, but not ovarian cancer. PapSEEK may be useful as a screening tool for endometrial cancer. However, further research on PapSEEK is needed to prospectively evaluate its diagnostic accuracy, compare it with current tests used in the early diagnosis of both cancer types, evaluate its effect on patient survival and disease progression, and measure its economic impact.

## PP264 Effectiveness And Safety Of Pressurized Intraperitoneal Aerosol Chemotherapy For Peritoneal Carcinomatosis: A Systematic Review

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**Introduction.** Pressurized intraperitoneal aerosol chemotherapy (PIPAC) is a minimally invasive therapeutic option for stage IV or terminal stage peritoneal carcinomatosis, which has a very low survival rate. PIPAC is aimed at patients whose only therapeutic alternative is systemic chemotherapy because they are unable to undergo other treatments, such as cytoreductive surgery with hyperthermic intraperitoneal chemotherapy. PIPAC consists of a micro-pump connected to a double-contrast injector, which is used to apply cytotoxic agents laparoscopically using pressurized aerosols. The objective of this study was to update the evidence regarding the effectiveness and safety of PIPAC.

**Methods.** A systematic review (SR) was conducted by searching PubMed, Embase, and The Cochrane Library database. ClinicalTrials.gov and the European Union Drug Regulating Authorities Clinical Trials Database were consulted to identify registered clinical studies. All articles published up to April 2019 were considered for inclusion. Abstracts, letters, single case studies, non-clinical and animal studies, and studies published in languages other than English or Spanish were excluded. Validated checklists were used to assess the quality of the included studies.

**Results.** Seventeen studies were included (three SRs and fourteen cases series) and eighteen ongoing clinical trials were identified. The quality of the SRs and cases series studies was low and moderate, respectively. Adverse events were categorized according to the National Cancer Institute Common Terminology Criteria for Adverse Events as grade 1–2 (mild-moderate: 11% to 40% of patients) and grade 3–4 (severe-fatal: 0% to 37% of patients). Overall complete histological regression according to the Peritoneal Regression Grading Score and the Peritoneal Cancer Index occurred in at least sixty percent of patients. The survival time ranged from 11 to 16 months.

**Conclusions.** Effectiveness data for PIPAC were promising, with high carcinomatosis regression rates. Most studies showed a moderate safety profile, with generally mild to moderate complications (nausea, abdominal pain, and vomiting). This is an advantage over systemic chemotherapy, which has severe systemic side effects. Economic evaluation studies are needed to estimate the cost effectiveness and cost utility of this technology. Diffusion of PIPAC is expected, but the criteria used to select patients in the studies carried out so far must be considered, as well as the need to follow strict safety protocols for preventing leakage of aerosolized cytotoxic drugs.

## PP265 Application Of A Case-Mix Method For Medical Consumables Management In Anhui Province, China Using Healthcare Big Data

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**Introduction.** The case-mix method involves combining cases with similar complexities and medical services. The process of treating one episode of the disease and receiving treatment is the research unit, thus achieving different medical units. The feasibility of the calculation method is verified by calculating the public hospital consumption ratio, medical income, health materials expenditure indicators, and the differences between the various types of surgical combinations. A decision-making basis can then be provided for the creation of government indicator standards.

**Methods.** Medical records and data on the expenditure of medical consumables for the first and fourth quarters of 2017 were collected from seven third-class provincial hospitals. The medical consumption ratio for different diseases and surgical methods was calculated for the case-mix groups using a weighting method.