

PCN40
A SYSTEMATIC REVIEW AND EXPLORATORY NETWORK META-ANALYSIS OF THIRD-LINE TREATMENTS FOR METASTATIC COLORECTAL CANCER



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Objectives: Limited treatment options are available in metastatic colorectal cancer (mCRC) that is refractory to chemotherapy. The objective was to conduct a systematic literature review (SLR) and exploratory network meta-analysis (NMA) to compare the tolerability and effectiveness of SIRT with Y-90 resin microspheres, regorafenib, TAS-102 (trifluridine/tipiracil) and best supportive care (BSC) as third-line treatment in patients with mCRC. **Methods:** An SLR was conducted to identify studies comparing two or more of the treatments and reporting overall survival (OS), progression-free survival, tumor response or adverse event (AE) incidence. An exploratory NMA was conducted to compare hazard ratios (HR) for OS using Markov chain Monte Carlo (MCMC) techniques. **Results:** Literature searches retrieved 1,334 unique studies. Title and abstract screening resulted in 40 studies eligible for full-text screening, of which 7 were ultimately included: two double-blind randomized controlled trials (RCT) for each drug, one open-label RCT and two non-randomized comparative studies for SIRT. There were differences across studies in terms of selection criteria, with studies of SIRT including patients with liver-dominant colorectal metastases, and in terms of control interventions. Diarrhea was more frequently reported as an AE with TAS-102 and regorafenib than with SIRT; nausea and vomiting were more frequent with TAS-102 than with regorafenib and SIRT. The exploratory NMA suggested that all active treatments improved OS, with HRs of 0.48 (95% CI 0.30–0.78) for SIRT with Y-90 resin microspheres, 0.63 (0.38–1.03) for TAS-102, and 0.67 (0.40–1.08) for regorafenib each compared to BSC, in the random effects meta-analyses. **Conclusions:** Regorafenib, TAS-102 and SIRT using Y-90 resin microspheres are more effective than BSC in third-line mCRC, however comparisons between active treatments are uncertain because of heterogeneity between the studies. SIRT can be considered an option in this setting and its favorable AE profile is relevant in the therapeutic decision-making process.

PCN42
TREATMENT PATTERNS AND SURVIVAL AMONG PATIENTS WITH BCG UNRESPONSIVE HIGH-GRADE NON-MUSCLE INVASIVE BLADDER CANCER: AN ASSESSMENT OF THE SEER-MEDICARE DATA



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Objectives: Standard treatment options are limited for patients with high-grade (HG) non-muscle invasive bladder cancer (NMIBC) after adequate Bacillus Calmette-Guérin (BCG) therapy. We examined the real-world treatment patterns and survival among BCG unresponsive patients diagnosed with HG NMIBC in the US. **Methods:** Using SEER-Medicare database (2008–2015), we identified BCG unresponsive patients among those who received adequate BCG (≥ 7 instillations within 9 months of diagnosis) based on the initiation of additional therapy within 12 months of the last consecutive BCG instillation. Therapies evaluated post BCG were radical cystectomy and bladder-preserving treatments (BPTs) (thiotepa, valrubicin, gemcitabine, mitomycin C, docetaxel, nab-paclitaxel, any combinations of these, chemo-radiation, and BCG + interferon alpha). Overall survival (OS) and bladder cancer-specific survival (BCSS) were assessed using Kaplan-Meier analysis and Cox proportional hazards models. **Results:** Among the 16,837 patients with HG NMIBC, only 13.9% received adequate BCG. Of these, 16.2% (378 patients) were BCG unresponsive and formed the study sample. Only 15.1% of these patients received radical cystectomy as their first treatment post-BCG. Of the 84.9% undergoing BPT, the most commonly used agents were mitomycin C (55.1%), BCG + interferon alpha (17.8%), valrubicin (11.8%), and gemcitabine (7.5%). The 5-year OS was similar between the two groups (52.6% vs. 51.6%) but patients receiving radical cystectomy had a lower 5-year BCSS (67.4% vs. 79.6%). After adjusting for potential confounders, patients receiving radical cystectomy had a significantly higher hazard of bladder cancer mortality (HR 2.09; 95% CI 1.05–4.13). **Conclusions:** BCG was underutilized in patients with HG NMIBC, indicating substantial unmet needs. The proportion of patients receiving radical cystectomy among BCG unresponsive patients was also low. Patients who received BPTs had similar OS as those who underwent radical cystectomy, but had a lower risk of bladder-cancer specific mortality. Further research is warranted to inform the contemporary treatment patterns and outcomes of this difficult-to-treat patient population.

PCN43
SYSTEMATIC LITERATURE REVIEW OF THE EFFICACY OF SECOND-LINE OR LATER TREATMENTS FOR RECURRENT OR METASTATIC CERVICAL CANCER



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Objectives: Recurrent/metastatic cervical cancer (rmCC) poses a significant clinical burden, particularly among women progressing after first-line therapy. Evidence is limited that second-line or later (2L+) treatment improves outcomes, particularly following treatment with the current first-line standard-of-care, bevacizumab in conjunction with paclitaxel-cisplatin or paclitaxel-topotecan. This systematic literature review investigated the efficacy of 2L+ treatments for rmCC.

Methods: Systematic searches and study selection were undertaken per a pre-defined protocol. Eligible studies were prospective studies including >10 patients with squamous cell, adenocarcinoma or adenosquamous histologies receiving 2L+ treatments for rmCC published from 2003–March 2019. Eligible interventions were those recommended by NCCN or ESMO guidelines and outcomes included overall response rate (ORR), overall survival, and progression-free survival. **Results:** Among 47,897 records screened, 13 studies met inclusion criteria; all were small, single-arm studies (for all except two studies, n=35). Only two reported first-line bevacizumab use, one of which led to the accelerated approval of pembrolizumab and reported a 12.2% ORR in the overall population (comprising 84% PD-L1-positive patients). The remaining studies reflected time-frames prior to the approval of bevacizumab in first-line, reported limited efficacy with varying outcome definitions, and most responses were unconfirmed. Two studies investigated 2L+ combination therapies (bevacizumab/atezolizumab, veliparib/topotecan) and reported ORRs of 7–20%, with no complete responses. Eleven 2L+ monotherapy studies were identified, three reporting no responses and only one reporting complete responses. Of studies with partial responses, ORRs were between 4.5–15% (n=7 of 8 studies). One study reported a partial response rate of 29%, but excluded prior taxane use, reflecting a distinct patient population. **Conclusions:** Literature on the outcomes of 2L+ therapy in rmCC is limited and reflected small, single-arm studies, with only one conducted after the approval of bevacizumab in first-line. More data are needed to understand the place in therapy of current 2L+ regimens.

PCN44
NATIONAL TRENDS IN ADMISSION AND IN-HOSPITAL MORTALITY OF PATIENTS WITH LUNG CANCER IN THE UNITED STATES, 2012–2016



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Objectives: While the incidence of lung cancer has decreased slightly since 2005, it continues to be the leading cause of cancer mortality in both men and women. We investigated hospitalization and in-hospital mortality trends in the US over the most recent period of data availability. **Methods:** Using 2012–2016 data from the National Inpatient Sample, admissions with a diagnosis of lung and bronchus cancer were identified. Descriptive measures, including demographics, length of stay (LOS), discharge disposition, and total cost (adjusted for inflation using medical care component), stratified by year. Discharge-level weights were applied to represent national estimates and domain analysis was used for subpopulation estimates. An annual percentage change was also calculated to characterize the trend in hospitalization rates over time. **Results:** In 2016, there were 558,725 admissions of patients with a diagnosis of lung cancer. Mean (95% confidence interval) age was 69.7 (69.6–69.9) years, 49.6% (49.2–50.0%) female, 69.1% (68.5–69.7%) had Medicare as the primary payer, and 76.7% (75.6–77.8%) were White. Mean age increased each year from 69.3 (69.2–69.5) years in 2012 (p=0.001). Hospitalization rates declined from 182 per 100,000 people in 2012 to 173 per 100 000 people in 2016, with an average annual decline of 1.1% (0.1–2.2%; p=0.042). Mean LOS was 5.8 (5.8–5.9) in 2012 and 5.8 (5.7–5.8) from 2013–2016 (p=0.320). In-hospital mortality was highest in 2012 and 2014 (7.6% [7.4%–7.8%]) of admissions, and was lowest in 2016 (7.3% [7.1%–7.5%]) (p=0.056). Mean cost of admission was \$15,088 (\$14,803–\$15,372) in 2012 and \$14,735 (\$14,442–\$15,028) in 2016 (p=0.492). **Conclusions:** From 2012–2016 the admission rate for lung cancer declined significantly. This is consistent with the observed decline in lung cancer incidence over the same period. In-hospital mortality declined by a statistically non-significant amount, although the magnitude was consistent with the observed reduction in overall lung cancer mortality over the same period.

PCN45
COMPARISON OF TOXICITY AND EFFICACY PROFILE OF FAC AND ACT CHEMO PROTOCOLS USED IN TREATMENT OF BREAST CANCER



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Objectives: Breast cancer is one of the most prevalent cancer in women. This study was designed to compare two common chemo protocols; FAC which is combination of 5-fluorouracil, Doxorubicin and cyclophosphamide and ACT (Adriamycin, cyclophosphamide and taxane). **Methods:** Using a prospective cross-sectional study design, data was collected from 150 hospitalised patients in oncology ward with diagnosis of breast cancer and were currently receiving standard breast cancer-directed treatment using either ACT or FAC in a specialised cancer hospital in