The official newsletter of the Student Oncological Advocates in Pharmacy (SOAP-NCODA)
at the University of Georgia, College of Pharmacy

WELCOME TO OUR FALL '24-'25

Oncology Bulletin

In this Issue

Acknowledgements

A heartfelt thank you to all our dedicated members, along with our incredible faculty and NCODA preceptors for their continued support and contributions that make this newsletter possible.

Our Mission

Student Oncological Advocates in Pharmacy (SOAP) is committed to elevating awareness for all different types of cancer. As a part of the University of Georgia, College of Pharmacy, we deepen our understanding through education and involvement to continue to provide support to our community, focusing on those affected by cancer.

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Semester Recap

THIS SEMESTER HAS BEEN AN EXCITING AND ENRICHING TIME FOR SOAP!

We've hosted a variety of events that brought our members closer together, expanded our knowledge of oncology, and made meaningful contributions to our community. A heartfelt thanks goes out to the SOAP Leadership Committee and our Executive Board for their incredible efforts in coordinating these impactful events. Their dedication has truly been the backbone of our success this semester.

NCODA Fall Summit

We also had the privilege of attending the NCODA Fall Summit Conference in Orlando. During the Oncology Career Symposium (OCS) Track, we heard from various oncology pharmacy professionals about their paths to post-graduate residency and fellowship and strategies for preparing for a career in oncology. A special shout-out to Meghan Hammond, P3 and President-Elect of NCODA International PSO, for her outstanding introduction of one of the speakers during this session. Among networking and reconnecting with fellow PSO chapters, we also found inspiring insight from the NCODA Full Circle segment which detailed the transitions of former NCODA residents, fellows, and Professional Student Organization (PSO) members into NCODA roles.

Pharmtoberfest

October brought a whirlwind of activity with Pharmtoberfest, where we partnered with DKMS to raise awareness about bone marrow donation and hosted a breast cancer awareness and screening counseling booth featuring info cards made by our OPSE/SAL Committee. Our infamous "Bra Pong" attracted significant engagement from attendees, making it a fun and rewarding experience for all involved.

Phlea Market

This semester, SOAP had the opportunity to participate in the UGA Homecoming Phlea Market! We sold fundraising merch to help support SOAP's events and initiatives. It was a great way to connect with the community, spread awareness about SOAP, and share our passion for oncology pharmacy. Thank you to everyone who stopped by and showed their support!

ACS Hope Lodge

In collaboration with UGA Relay for Life, our members had the honor of cooking dinner at the American Cancer Society Hope Lodge, an initiative that provides free housing and a supportive environment to patients actively receiving cancer treatment and their caregivers. Afterwards, they joined the residents for dinner, encouraging them on their journeys as they heard their stories. Viola, a P2, enthusiastically noted about her experience, "I found Hope Lodge to be really fun because it was a unique experience where I was able to interact with patients and with my fellow peers."

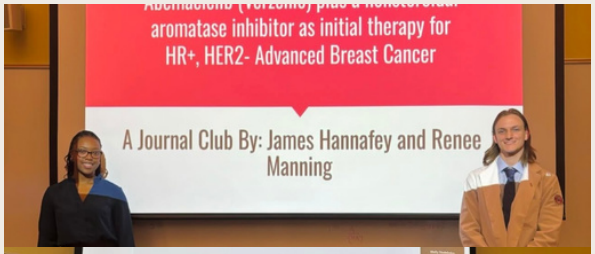
Guest Speakers

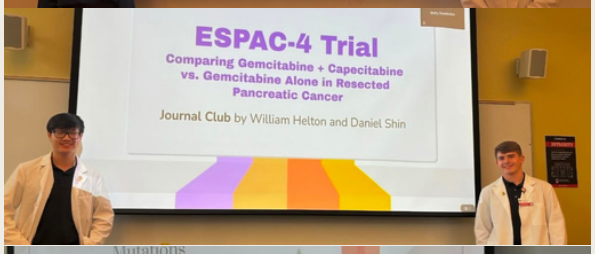
DR. AMBER CLEMMONS, PHARM.D., BCOP, FHOPA provided invaluable insights into her path to oncology pharmacy and a day in her life in academia and at AU Medical Center.

DR. GABRIELLE MCCAMMACK, PHARM.D. PGY1 SPECIALTY PHARMACY RESIDENT from Emory and a proud UGA alum, shared her journey from pharmacy school to residency, providing valuable insights into specialty practice and leadership.

Breast Cancer Awareness Panel

Another memorable event was our Breast Cancer Awareness Panel with APhA's Reproductive Health Initiative, which fostered an intimate and healing environment. Panelists Dawn Burden, Dr. Vivia Hill-Silcott, Louise Huff, Toni Phelabaum, Dr. Michelle McElhannon, and Mickey Youngue shared their personal journeys with breast cancer. The feedback from both panelists and attendees was overwhelmingly positive, highlighting the inspiring resilience of survivors and the importance of sharing awareness through their lived experiences.





Journal Clubs

Lastly, our members showcased their expertise through three outstanding journal club presentations. These sessions covered novel regimens for advanced breast, pancreatic, and ovarian cancers, sparking insightful discussions and enhancing our collective knowledge of current advancements in oncology treatment.

A Journey Through Oncology Pharmacy

NCODA Spotlight: Natasha Olson, Pharm.D., Senior Manager of Clinical Communications & Outreach

WRITTEN BY MEGHAN HAMMOND, PHARM.D. CANDIDATE

In this issue's NCODA Spotlight, I had the privilege of sitting down with Natasha Olson, Senior Manager of Clinical Communications & Outreach at the National Community Oncology Dispensing Association (NCODA). Natasha's career is a testament to the power of perseverance, networking, and passion.

Tell me a little about yourself.
"I'm from Washington State, born and raised there in a tiny town with about 800 people on a good day," Natasha shared. She completed both her undergraduate and pharmacy studies at Washington State University, moving to Spokane to pursue her career. Initially starting in long-term care, it was through the power of networking that her journey into oncology pharmacy began. A mentor helped her refine her CV, and a surprise opportunity led her to an interview in oncology—a field she had never worked in before.

"I got a call one day asking if I was interested in oncology," she said. "I'd never done anything in oncology, but I said, 'Sure!' Next thing I knew, I had an interview in an hour." She was hired as the only pharmacist for Summit Cancer Centers, covering four centers, seventeen doctors, and three nurse practitioners.

Can you tell me about your career path and what led you to your current role?
One standout fact about Natasha's journey is that she did not complete a residency or fellowship, which many might consider essential for landing clinical roles. "It came up during my interview at Summit Cancer Centers. They weren't sure if I was qualified for the job, and I said, 'I didn't do a PGY1 or PGY2, but I'm a hard worker and a fast learner. If you train me, I can be the best oncology pharmacist you've ever had.'" Her determination paid off, and she spent four years in that role before transitioning to NCODA, where she's been for the past four years.

What does your day-to-day look like at NCODA?
Natasha's current role at NCODA is constantly evolving. "Every single day is different," she explained. Recently, she transitioned from the clinical side of the organization to the engagement side, where she's involved in everything from social media to clinical communications like blog posts, white papers, and newsletter development. "It's a challenge, but a fun one. I'm learning how to shape and tweak things to be more interesting for the people on the industry side."
Before this role, Natasha was the senior manager of clinical initiatives and through that role she was in charge of NCODAs webinars, and there are usually one to four per week.

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She was also heavily involved in the development and maintenance of NCODA's Positive Quality Interventions (PQIs), a project she's particularly proud of. The PQIs are really what brought her to NCODA in the first place in 2017. She was a month into her oncology profession, and she described it as "drinking from the firehose". As a new oncology pharmacist, the PQIs at NCODA were a lifesaver. They serve as a concise, relevant guidance without flipping through pages of prescribing information. There's actually a great opportunity for student's to get involved in NCODA PQI's. Be on the lookout for registration information in January.

Can you tell me about your role in NCODA's Inspire Publication?
As a member of the editorial board for Inspire, Natasha has helped recruit contributors and guide content development. "The Inspire Publication is geared towards students and young professionals." She explained. Her role is to edit documents for the publication and make sure everything reads well. NCODA has multiple publications, but the two biggest ones are Inspire and Oncolytics Today. Oncolytics Today is a publication at NCODA that's meant for all members and it is dedicated to empowering medically-integrated oncology pharmacy practices nationwide.

What's your favorite part of your job? Your least favorite?
"My favorite part is working with my dog, Sage," Natasha joked, referring to her adorable golden retriever. More seriously, she loves engaging with healthcare professionals and learning from them.

"It's funny because I used to be introverted in pharmacy school, and now I love meeting new people." On the flip side, her least favorite part? Her workday is from 6am to 2pm, and she would describe it as a blessing and a curse. Since she is located on the west coast and NCODA's headquarters are located on the east, when it's 9am for a lot of her coworkers and they're ready to get their meetings started, it's 6am for her.

Any advice for students pursuing a career in oncology?
"Networking is the number one thing every student should do regardless of where you want to practice or what field you want to be in," Natasha emphasized. "Every important moment in my career has come from networking." Through volunteering at a local Spokane pharmacy association called Cancer Can't, she got to know the founder and director of that organization who ended up introducing her to a man who would later become her husband. She encourages students to build relationships at conferences, on LinkedIn, and within professional organizations like NCODA. "There's so many people who want to help young professionals and students. It's just about taking that first step and meeting them."

Natasha's journey is a perfect example of how passion, resilience, and a willingness to step outside of your comfort zone can lead to a rewarding career. As students and future pharmacists, there's much we can learn from her experience. Natasha reminds us that networking can open doors you never thought possible.

Drug Update: inavolisib (Itovebi)

WRITTEN BY CARLY SCHNABLE PHARM.D. CANDIDATE
EDITED BY DR. AUSTIN STARKEY, PHARM.D., MBA

On October 10th, 2024, the FDA approved inavolisib (Itovebi) + palbociclib + fulvestrant for adults with endocrine-resistant, PIK3CA-mutated, HR-positive, HER2-negative, locally advanced or metastatic breast cancer, following recurrence on or after completing adjuvant endocrine therapy.[1]

Inavolisib is an inhibitor of phosphatidylinositol 3-kinase (PI3K), with special selectivity for PI3Kα. Research has shown that PIK3CA is the major genetic abnormality found in HR-positive breast cancer, making drugs that target this class of kinases particularly interesting.[2] The mutation occurs in the part of the gene that encodes the p110α catalytic subunit of PI3K and affects the PI3K-protein kinase B-mammalian target of rapamycin axis, leading to changes in cell proliferation, growth, metabolism, and motility.

Inavolisib's efficacy was evaluated in INAVO120, a randomized, double-blind, placebo-controlled, multicenter trial.[1] The trial enrolled 325 patients whose cancer had progressed during or within 12 months of completing adjuvant endocrine therapy and who had not received prior systemic therapy. The primary measure of efficacy was investigator-assessed progression-free survival (PFS). Median PFS was 15.0 months in the inavolisib + palbociclib + fulvestrant arm and 7.3 months in the placebo + palbociclib + fulvestrant arm.

Patients involved in INAVO120 were required to have HbA1C < 6%, fasting blood glucose < 126 mg/dL, and the absence of Type 1 or Type 2 diabetes mellitus requiring ongoing anti-hyperglycemic treatment.[3]

This is because inavolisib has a high risk of causing hyperglycemia, with 85% of patients treated with the drug experiencing increased blood glucose during clinical trials, and 46% of patients requiring treatment with oral antihyperglycemic medications. It is recommended that providers evaluate fasting blood glucose and HbA1C prior to starting inavolisib and at regular intervals for the duration of treatment.

The recommended dosage of inavolisib is 9 mg taken orally once a day, with or without food, until disease progression or unacceptable toxicity. Inavolisib should be taken with palbociclib 125 mg orally once a day for 21 days followed by a 7 day rest period (for 28-day cycles), as well as fulvestrant 500 mg intramuscularly on days 1 and 15 of the first cycle, then on day 1 of every subsequent 28-day cycle.[1] Additionally, pre/perimenopausal women and men taking inavolisib should be put on a luteinizing hormone-releasing hormone agonist during treatment.[3]

The most common (≥20%) adverse reactions to inavolisib include decreased neutrophils (95%), increased fasting blood glucose (85%), stomatitis (51%), diarrhea (48%), decreased platelets (84%), decreased hemoglobin (88%), decreased appetite (24%), and COVID-19 infection (23%). Adverse reactions included hyperglycemia (1.2%) and (0.6% each) stomatitis, gastric ulcer, intestinal perforation, anal abscess, increased ALT, decreased weight, bone pain, musculoskeletal pain, transitional cell carcinoma, and acute kidney injury, and led to inavolisib being discontinued in 6% of patients.

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In addition to the warning for hyperglycemia, inavolisib carries warnings for stomatitis, diarrhea, and embryo-fetal toxicity. Stomatitis and diarrhea caused treatment interruption in over 5% of patients (10% and 7%, respectively); as such, patients and providers should monitor for signs and symptoms of these adverse reactions. Additionally, patients should be advised on appropriate contraceptive use during their treatment with inavolisib.

Overall, inavolisib is an exciting development in the world of kinase inhibitors targeting common mutations in breast cancer patients. However, its limitations, especially regarding patients prone to hyperglycemic events, show that there is still much work to be done in oncological drug development.

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Reducing Hypogammaglobulinemia in CLL and NHL with Immunoglobulin G Testing and Replacement Therapy

WRITTEN BY JAMIE LE, PHARM.D. CANDIDATE
EDITED BY DR. SARDER SADID, PHARM.D.

Chronic lymphocytic leukemia (CLL) and non-Hodgkin lymphoma (NHL) are common B-cell malignancies with an elevated risk for hypogammaglobulinemia (HGG), a secondary immune deficiency (SID) characterized by low serum immunoglobulin and high mortality rates.[1,2] As a significant precursor for severe, life-threatening infections, HGG accounts for a 50% and 33% mortality rate in CLL and NHL patients, respectively.[1] Current guidelines and practices differ regarding the timing and frequency of immunoglobulin G (IgG) testing, the initiation of immunoglobulin replacement therapy (IgRT), and the definitions of HGG among healthcare practitioners.[1,3] Consequently, many patients are not adequately tested for IgG deficiency and are not given IgRT even with recurrent infections.[3]

The effectiveness of IgRT and IgG testing in increasing survival rates among CLL and NHL patient populations was examined in a recent study by Soumerai et. al. in Blood Advances.[1] CLL and NHL patients who received IgRT had higher serum IgG, thus experiencing fewer recurrent, severe infections and requiring less antimicrobials. This retrospective study was conducted among 17,192 adult patients with CLL (n = 3960) or NHL (n = 13,232) using the Massachusetts General Brigham Research Patient Data Registry. A subcohort of patients had a record of 1 or more instances of IgRT (4.7% NHL and 6.5% CLL, respectively) and another had a record of 1 or more IgG tests. Within the IgRT subcohorts, the percentage of patients with HGG (IgG < 500 mg/dL), infection rate, and subsequent antimicrobial use were compared at 3, 6, and 12 months before versus after receiving IgRT.

At the 3-month mark after receiving IgRT, the odds of severe infections and antimicrobial use were significantly decreased compared to baseline for both CLL and NHL patients.[1] This was seen by an odds ratio (OR) for severe infections at 3 months as 0.48 (95% CI, 0.35-0.67) for CLL patients and 0.40 (95% CI, 0.32-0.50) for NHL patients. Multivariable logistic regression model findings also suggested a positive association between the number of IgG tests and favorable infection outcomes. Cross-cohort and at all time points, rates of HGG were decreased suggesting that higher frequencies of IgG testing (≥3) can increase the rates of isolating low IgG levels and initiating timely and effective IgRT.

Soumerai et. al. concludes that IgRT use plays a crucial role in HGG reduction, overall infection prevention, and antimicrobial resistance reduction in CLL and NHL patients.[1,3] This study was limited in its retrospective design, inclusion of a majority-white patient population encompassing a single healthcare system, and many patients not receiving IgG tests or IgRT during the observation period.[1] Despite these limitations, the conservative use of IgRT in this analysis highlights a critical need for establishing continuity in the guidelines for routine IgG testing and IgRT indications to reduce HGG and the risk of recurrent and severe infections in patients with CLL and NHL. Notably, simply elevating IgG levels to reach a baseline in all patients is not the goal. More studies are needed to define patients' immunological status and level of IgG deficiency in order to individualize and optimize IgRT for patient-specific clinical benefit.

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Managing Myeloid Neoplasms

WRITTEN BY MONICA NGO, PHARM.D. CANDIDATE
EDITED BY DR. JONATHAN RIVERA, PHARM.D.

Myelodysplastic syndromes (MDS) are a group of disorders characterized by ineffective hematopoiesis. MDS primarily affects the bone marrow, leading to dysfunctional or deficient blood cell production.[1] Common symptoms of MDS include anemia, leukopenia, and thrombocytopenia, which results in fatigue, frequent infections, and bleeding. The exact cause of these disorders is unclear, though they can be associated with prior chemotherapy or radiation therapy, genetic mutations, or environmental factors. MDS diagnosis is confirmed through bone marrow biopsy and treatment typically involves supportive care, disease-modifying therapies, and stem cell transplantation for eligible patients.

MDS management has evolved significantly, specifically with the involvement of molecular profiling.[2] In 2024, the identification of high-risk mutations like TP53, ASXL1, EZH2, and RUNX1 has initiated a major shift in the understanding and treatment of MDS. This applies even to patients who were previously considered low-risk according to the International Prognostic Scoring System (IPSS), which is a tool used to assess the prognosis of MDS.[3] These genetic mutations are linked to a significantly poorer prognosis and raised questions about traditional management strategies that mainly focused on symptom severity, transfusion needs, and perceived risk of disease progression.[3]

In the past, the management of myeloid malignancies such as MDS and myelodysplastic/myeloproliferative neoplasms was largely based on clinical factors, including symptom severity, blood cell counts, and the likelihood of disease progression.[3] Next-generation sequencing (NGS) can detect high-risk mutations in patients who would not typically qualify for treatment based solely on clinical criteria. This raises the question of whether these patients should undergo disease-targeted, potentially aggressive therapy, or be managed with closer surveillance.[3]

For patients with chronic myeloid neoplasms and mild cytopenia, routine monitoring through blood tests and bone marrow evaluations remains a standard approach. However, the discovery of high-risk molecular mutations, like the SRSF2 mutation, has sparked discussions about whether this approach should be revised.[4] Even in patients with relatively normal blood counts, these genetic abnormalities could justify earlier intervention, potentially including curative treatments like allogenic bone marrow transplantation (allo-BMT). While the Molecular IPSS, an updated version of the IPSS, provides useful insights into disease risk and post-transplant outcomes, it does not necessarily dictate the treatment plan.[5] Other factors, such as the patient's medical history, disease characteristics, and the presence of unfavorable genetic markers, must also be considered. For example, a history of smoking or prior chemotherapy could increase the likelihood of high-risk clones and may warrant more aggressive treatment.[5]

The choice to pursue allo-BMT in patients with lower-risk MDS who have high-risk mutations is still debated. Some research indicates that these patients may still benefit from allo-BMT, with one retrospective study reporting a 91% five-year survival rate in those with high-risk mutations who underwent transplantation.[4] However, transplant-related mortality remains a concern, with some studies showing a 17% three-year mortality rate. The MDS-ALLO-RISK study, which examined allo-BMT in lower-risk patients with adverse features, found similar survival rates across treatment groups but was halted prematurely due to lack of efficacy.[6]

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An alternative treatment strategy for these patients is the use of hypomethylating agents (HMAs) prior to allo-BMT. Studies have suggested that HMAs can improve outcomes, particularly in higher-risk MDS patients, by reducing the mutation burden before transplantation.[7,8] Additionally, low-dose HMAs have shown promise as an initial treatment for lower-risk MDS patients, especially those with high-risk genetic features.

Managing MDS with high-risk mutations marks a new chapter in cancer care. While shared decision-making continues to play a crucial role, the use of molecular profiling to inform treatment decisions is becoming increasingly important. Determining the appropriate balance between aggressive treatment and ongoing surveillance will require a thorough evaluation of each patient's individual clinical and genetic characteristics.

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Multitarget Stool DNA Test for Colorectal Cancer (CRC) Prevention

WRITTEN BY ZILL PATEL, PHARM.D. CANDIDATE
EDITED BY DR. COOPER BAILEY, PHARM.D., RPH

New modeling data has been released showing the potential impact on patients of the first multitarget stool DNA test, Cologuard, which received its FDA approval in 2014. The test is a non-invasive, first-line screening tool for colorectal cancer in adults aged 45 and older who are at average risk, and it has been used over 16 million times in the past decade. The American Cancer Society and the U.S. Preventive Services Task Force screening guidelines detect DNA markers and blood in stool associated with colorectal cancer and precancerous cells. Colorectal cancer is a severe health concern, as it is the third-leading cause of cancer-related death in men and the fourth-leading cause in women.[1] Reversible risk factors are obesity, type 2 diabetes, diets high in meat consumption, smoking tobacco, and drinking alcohol. Some irreversible risk factors are being male, history of cholecystectomy, and having a personal or family history of colorectal polyps or cancer.[2]

The test has significantly increased screening rates, helping to close the gap for 60 million Americans not up to date. CDC data shows it contributed to raising rates from 63% in 2015 to 72% in 2021 for adults aged 50 to 75. The number of people aged 45 to 49 completing screening tripled between 2021 and 2023.[2]

Over the past decade, the test has detected advanced precancerous lesions, which are in about 525,000 people, and identified 42,000 individuals with stage I colorectal cancer, with 80% of cancers detected in early stages.[2] Early detection has saved over $22 billion in healthcare costs and reduced demand on healthcare staff by freeing millions of scheduling, nursing, and provider hours to focus on more complex cases. This non-invasive home test has expanded access to colorectal cancer screening, addressing the gap that colonoscopy alone cannot close, and has significantly reduced screening backlogs.[2]

In a recent article, "Clinical, social, and economic impacts of colorectal cancer screening with the multitarget stool-DNA test: 10-year experience—a simulated study," the authors analyze the effects of the multitargeted stool DNA (mt-sDNA) test, Cologuard, over a decade.

The study used published data on the prevalence of advanced precancerous lesions (APL) and CRC across different stages and the sensitivity and specificity of the mt-sDNA test. It compared these data with colonoscopy screening and examined the clinical, social, and economic outcomes of mt-sDNA testing.

The study's simulation projects that mt-sDNA testing detected approximately 98,000 CRC cases, with 77,000 of these detected in the early, localized stages (stages I or II). Early detection enabled curative treatment, allowing over 34,000 patients to survive due to earlier interventions. The test also identified about 525,000 cases of APLs, which are precursors to CRC. Through early detection and treatment of these lesions, the mt-sDNA test may have prevented over 39,000 cases of CRC. The test has resulted in nearly 14 million negative results over the decade, reassuring patients without requiring invasive colonoscopies.[2]

The economic analysis revealed substantial cost savings with mt-sDNA screening. The estimated savings over ten years were approximately $22.3 billion compared to no screening. These savings included $9.7 billion in reduced cancer treatment costs due to early CRC detection and an additional $12.6 billion through cancer prevention by detecting and removing APLs.[2] The mt-sDNA test also saved significant time for both patients and healthcare providers.

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The screenings have substantially increased overall screening rates in the U.S. Between 2013 and 2021, CRC screening rates among adults aged 50–75 rose from 59% to 72%, which led to a decline in age-adjusted CRC mortality rates by more than 10% between 2014 and 2022.[2] Despite the past heavy reliance on colonoscopies, the study mentions its cost, adherence, and clinical capacity limitations. Non-invasive options like mt-sDNA help reduce those burdens while still providing effective detection of CRC and APLs.

In conclusion, the mt-sDNA test significantly helps with CRC prevention and early detection, lowering mortality rates and healthcare costs. The test's simplicity has made it accessible to millions at home, encouraging higher screening rates. Over the next ten years, the test is projected to continue expanding access to screening, helping to improve patient outcomes and reducing the financial burden of CRC.

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Corticosteroids for Immune-Related Adverse Events and ICI Efficacy

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What are Immune checkpoint inhibitors (ICIs) and how do they work against cancer cells?

Immune checkpoint inhibitors (ICIs) are molecules on immune cells that standardize immune response and prevent excessive immune activity that may attack and damage healthy tissue. ICIs are activated when proteins on the surface of T cells (immune checkpoint proteins) recognize and bind to partner proteins on the cells. The interaction sends an inhibitory signal to the T cells which prevents them from attacking. Cancer cells will take advantage of this process by expressing these partner proteins which allow them to "turn off" and elude the immune system detection. This will allow the cancer cells to protect themselves and keep developing. ICIs will block the proteins from binding to their partner protein which prevents the "off-switch" on the immune system and enables the T cells to recognize and destroy the cancer cells.[1] Common checkpoints targeted by ICIs are the PD-1 (programmed cell death protein-1), PD-L1 (programed death ligand-1), and CTLA-1 (cytotoxic T-lymphocyte-associated antigen-4). PD-1 binds to PD-L1 and activates the "off switch" and keeps the T cells from attacking other cells in the body. When CTLA-4 binds to its ligand, it dampens the immune system response and acts as the "off switch."[2]

Does administering corticosteroids for managing immune-related adverse events (irAEs) impact the efficacy of immune checkpoint inhibitors (ICIs) for solid tumors?

High-dose corticosteroids negatively affected the efficacy of immune checkpoint inhibitors (ICIs) in patients with solid tumors. Peak doses compared to minimum doses were linked to worse survival outcomes. Peak dose referred to the highest daily dose of corticosteroids while cumulative dose represents the total amount administered over time.[3]

1959 participated in a post hoc analysis and 834 of patients received systemic immunosuppression with corticosteroids for their immune-related adverse events (irAEs). A peak dose of 1mg/kg was associated with a 21% increased risk of death as well as a 2mg/kg was associated with a 66% increased risk of death. Higher peak doses were consistently associated with worse clinical outcomes and reduced survival rates. The higher the peak dose, the more severely the immune system was suppressed which potentially reduced the efficacy of the ICIs that rely on strong immune systems to fight cancers. 81 patients received a second-line immunosuppressant and were not significantly associated with an increased death rate like from the small population size.[3]

The cumulative dose was suggested to be an intense short-term suppression and was not associated with worse survival outcomes.[3]

Review the effects of corticosteroid use on clinical outcomes (overall survival, treatment outcomes, etc.) of solid tumor patients treated with ICIs.

Since ICIs work to stimulate the immune system to recognize and attack cancer cells, high doses of corticosteroids counteract this effect and lead to reduced anti-tumor activity. Overall survival was defined as the time from starting the first immunosuppressant for a treatment related adverse effect (trAE) till death and progression free survival was defined as the time of starting the immune suppressive drug until an investigator reported progression of the disease or death from another cause.[3]

Patients receiving a 1mg/kg dose had a 15% risk of disease progression than those with lower doses as well as a 2mg/kg dose has a 43% risk of disease progression. Higher dose of corticosteroids is likely related to an increased disease progression.[3]

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Potential complications from corticosteroid use involved an increased risk of infection from the immunosuppressant therapy, metabolic issues (hyperglycemia, or weight gain), bone density loss, and cognitive changes that could impact daily function.[3]

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Editor's Note

Thanks for taking the time to read this edition of the SOAP Newsletter!

We hope you found it helpful and relevant to your work or studies in oncology pharmacy. We're excited to bring you even more updates and insights next semester, so stay tuned.

As always, we'd love to hear your thoughts or ideas for future issues—this newsletter is for all of us to learn and grow together!

Best Regards,
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