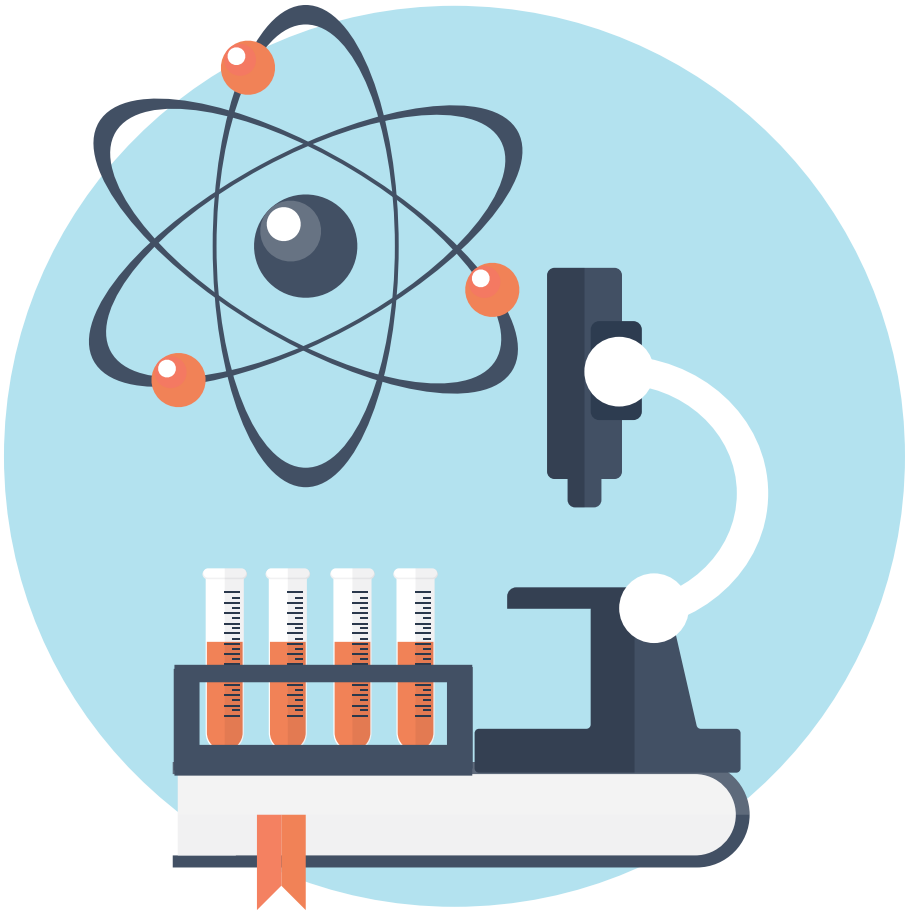
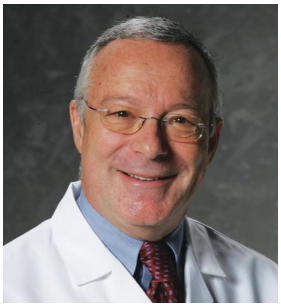


Highlights of ASCO 2015

BY CARY A. PRESANT, MD, FACP, FASCO



Thoughts from a community oncologist

ASCO 2015 WAS HELD IN CHICAGO, ILLINOIS FROM MAY 29 through June 2. Once again, more than 37,000 of our closest friends and colleagues from all over the world attended to hear the latest advances from clinical trials and preclinical translational information as well. It was an exciting meeting for several reasons.

First, major changes are coming in the payment strategy for medical oncology services. These include supplemental payments for compliance with industry developed guidelines:

- Jennifer Malin, MD, presented on behalf of Anthem Blue Cross
- Barbara McAneny, MD, presented on the medical oncology home (the COME HOME program)
- Ron Kline, MD, presented on the newly developed Oncology Care Model (OCM) from the Center for Medicare and Medicaid Innovation.

These presentations were in addition to discussions on bundled payments and participation in IPA, HMO, and ACO activities, which were part of the pre-ASCO meeting on the Economics of Oncology Care. This was a comprehensive introduction to a topic that will affect all practices and programs in the next few years. The information will be necessary to help make decisions in the practice setting. Further information, which will be published in the *Journal of Clinical Oncology, Journal of Oncology Practice*, and *ASCO Post,* will help to inform providers and state oncology societies.

Another hot topic at ASCO 2015—immunotherapy for cancer patients, including approved uses of nivolumab and pembrolizumab, as well as other investigational drugs. There was discussion of these drugs alone or in combination with ipilimumab, and the results are discussed in the abstracts that follow. Obviously, providers will need to understand how to use these active medications, alone or in combination, and how to create an environment where patients and payers can afford these very expensive pharmaceuticals.

Immunotherapy was also a strong presence at the Association of Community Cancer Centers (ACCC) ASCO 2015 booth with the launch of the Institute for Clinical Immuno-oncology (ICLIO), a unique initiative that will accelerate the adoption of immunotherapy in the community. Learn more at accc-iclio.org.

[In the keynote lecture, Dr. Porter] anticipated that bundled payments for conditions would be necessary and integrated multi-site care delivery systems focused around individual diseases, such as breast cancer or lung cancer, would be needed.

Keynote Lecture

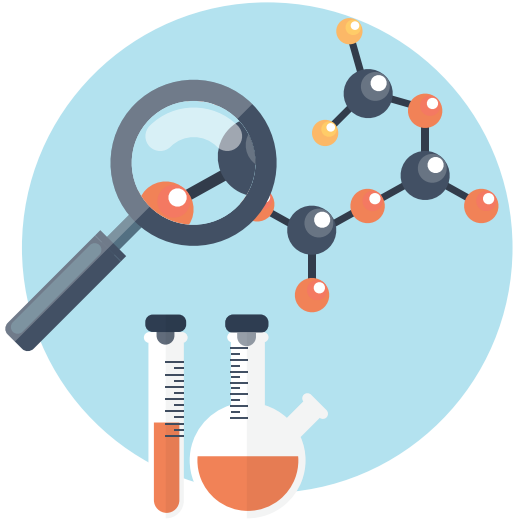
The ASCO 2015 keynote lecture was delivered by Michael E. Porter, MD, PhD, an economist at Harvard Business School. He discussed value-based healthcare delivery, and emphasized that to really deliver value, oncology must reorganize the delivery systems to go beyond individual practices. He stressed developing integrated practice units, organized around trying to meet the needs of individual patients and involving multiple disciplines, as well as developing facilities for measuring outcomes and costs for every patient. Porter anticipated that bundled payments for conditions would be necessary and integrated multi-site care delivery systems focused around individual diseases, such as breast cancer or lung cancer, would be needed.

Karnofsky Lecture

Suzanne Topalian, MD, of Johns Hopkins University, presented a discussion of immune checkpoint modulators in oncology. She pointed out that after the cloning of CTLA-4 in 1987, in 2011 ipilimumab was approved. Furthermore, after the cloning of PD-L1 in 1992, in 2014 anti-PD-L1 therapy was approved by the FDA. She went on to say that measurement of PD-L1 may be important in determining responsiveness of tumors to anti-PD-L1 therapy, but measurement of PD-L1 is very difficult and has substantial pathologist-to-pathologist and assay-to-assay variability, and further difficulty due to variable expression over time in a tumor. (These points were later underscored by discussions from Roy Herbst, MD, PhD, of Yale). Nonetheless, Dr. Topalian emphasized that the activity of anti-PD-L1 therapy was very broad, showing activity in melanoma, lung cancer, kidney cancer, bladder cancer, ovarian cancer, head and neck cancer, Hodgkin's disease, gastric cancer, hepatoma, breast cancer, and mesothelioma. Some of these activities will be discussed later in this article. Her lecture underscored the importance of immunotherapy to the entire ASCO 2015 experience.

Breast Cancer

Abstract LBA500 (R. Margolese et al.) looked at patients with DCIS (ductal carcinoma *in situ*). Postmenopausal patients in study B35 received either tamoxifen or anastrozole. The breast cancer free interval was increased by 4% in anastrozole-treated patients, and was equal in patients under 60 or over 60 years of age. Overall survival (OS) was equal. However, there were fewer uterine cancers and fewer thromboembolic events on anastrozole, while osteoporosis was 40% more common on anastrozole. The practice changing recommendation: anastrozole as the treatment of choice for these patients, dependent on the preferred side effect profile.



Abstract LBA502 (N. Turner et al.) identified that palbociclib added to fulvestrant showed a progression free survival (PFS) of 19.2 months, compared to fulvestrant alone at 3.8 months in patients who were progressing after aromatase inhibitor or other hormonal therapy (hazard ration [HR] 0.42, P<0.001).

Abstract 503 (J. Gralow et al.) presented findings from the S0307 study where patients were randomized between zoledronate, clodronate, and ibandronate. The frequency of ONJ (osteonecrosis of the jaw) was 1.3% on zoledronate, 0.3% on clodronate, and 0.7% on ibandronate. There was no change among the three arms in disease-free survival (DFS) or OS. Since bisphosphonates increase DFS in postmenopausal patients, the authors concluded that the preferred treatment would be clodronate, if it is available. Furthermore, bisphosphonates also appear to reduce breast cancer mortality in other studies summarized by the EBCTCG.

Abstract 504 (M. Gnant et al.) looked at patients receiving adjuvant therapy for postmenopausal breast cancer. Patients were randomized to placebo versus denosumab. There was no difference in bone pain, no cases of ONJ observed, and no occurrence of atypical fractures. The denosumab schedule was every six months of therapy. The frequency of fractures was reduced by denosumab (HR 0.5, P=0.0001). Importantly, reduced fracture rates were seen at 3 years (4% on denosumab, 10% on placebo), and also at 6 years (6% on denosumab, 19% on placebo). Results were equally good in patients who had baseline osteopenia versus patients who had baseline normal bone density. At 36 months, bone density had decreased by 2.75% in placebo-treated patients, whereas it has increased by 7% in denosumab-treated patients. Therefore, use of denosumab should be strongly advised for postmenopausal patients receiving adjuvant hormonal therapy.

Abstract 508 (A. Chan et al.) presented findings from the ExteNET study. In HER2 patients who had completed chemotherapy plus trastuzumab as an adjuvant treatment, patients randomized to neratinib had an invasive-disease-free interval of 93.9% following 12 months of neratinib compared to only 91.6% after placebo (HR 0.67, P=0.0009). In patients with estrogen receptor negative disease, results were equal, whereas in patients who were estrogen receptor positive the invasive-disease-free interval was longer with neratinib (HR 0.51, P=0.001). When approved by the FDA, this will become a treatment of choice following adjuvant therapy in HER2-positive patients.

Abstract 519 (P. Shah et al.) looked at the results of Onco*type* DX testing in patients with BRCA mutations. The test showed high risk of recurrence in 28% of patients, compared to only 7% in sporadic patients. There was a low assay result in 16% of mutation patients, compared to 57% in sporadic patients. Therefore, Onco*type* DX testing should be expected to show higher

risks in patients with BRCA mutations, supporting the use of chemotherapy in appropriate patients.

Abstract 1009 (S. Mougalian et al.) discussed that patients randomized to ACT versus TC showed a 5-year OS which was equal. The authors pointed out that the trend between 2004 and 2010 showed a decrease in CMF use from 18% down to 6%, a decrease in AC from 25% down to 3%, an increase in TC from 0% to 48%, and a slight decrease in ACT from 26% to 22%.

Abstract 1010 (H. Kaplan et al.) looked at evidence of results in stage II and III patients treated with adjuvant chemotherapy between 1990 and 2007. The 5-year disease-specific survival (DSS) had increased. In patients ages 65 to 69, survival had increased from 86% to 95%, but in patients over age 70 there was no increase, with OS remaining similar at 85% in 1990 compared to 86% in 2007. It was pointed out that because such patients received 20% less chemotherapy and 10% less hormonal therapy, patients over the age of 70 should be carefully evaluated to make certain that they are treated maximally with adjuvant therapy.

Abstract 1017 (V. Kaklamani et al.) showed in triple-negative breast cancer (TNBC) that the combination of carboplatin plus eribulin demonstrated a 43% pathologic complete response from neoadjuvant treatment. This combination will be studied more and will possibly be used in such patients at various stages.

Abstract 9518 (H. Rugo et al.) looked at the use of the DigniCap Scalp Cooling System. After six cycles of TC, alopecia had occurred in 100% of patients without the cap, versus 37% of patients with the cap. Based on these findings, I expect the cap to be more widely available in the United States very soon.

Non-Small Cell Lung Cancer

Abstract 8002 (J. Soria et al.) showed that afatinib was more effective than erlotinib in OS in patients who had developed platinum-resistant squamous cell carcinoma.

Abstract 8023 (M. Kris et al.) studied the use of the IBM Watson computer to make patient treatment recommendations, versus the recommended therapy by lung cancer experts at Memorial Sloan Kettering Cancer Center. In patients with localized disease, there was agreement between Watson and physician only 66% of the time. In patients with metastatic disease, agreement was higher at 85%. The authors pointed out that Watson failed to consider patient preferences, co-morbidities, or elderly age in making recommendations. These differences can be resolved somewhat by inputting those variables into the Watson computer, but this needs to be done in future development.

Abstract LBA109 (L. Paz-Ares et al.) summarized the CheckMate 057 study. In patients with non-small cell carcinoma of the lung who had failed prior platinum doublet therapy, OS with nivolumab was 12.2 months compared to only 9.4 months with docetaxel (HR 0.73, P=0.002). The conclusion: while the drug is approved for advanced squamous non-small cell lung cancer (NSCLC), the FDA should also approve this drug for non-squamous NSCLC.

Survivorship

Abstract 6509 (A. Bansal et al.) reported on bankruptcy rates. Bankruptcy in cancer patients was increased 2.5 fold compared to non-cancer patients. The overall incidence of bankruptcy was 2%. Astonishingly, the occurrence of bankruptcy subsequently increased the mortality rate in cancer patients, with a hazard ratio of 1.79. Obviously, financial considerations and needs must be taken into account when treating cancer patients.

Abstract 9542 (T. Wildes et al.) looked at geriatric assessments and correlation with fall risk. In geriatric cancer patients, use of anti-depressants increased the risk of falls 2.9 fold. Therefore, extreme caution should be used in prescription of anti-depressants, with patients and caregivers being aware of fall risk when considering anti-depressant use in elderly patients.

Abstract 9546 (M. Delgado-Guay et al.) looked at the most common wishes in patients who were being followed in a palliative care oncology unit at MD Anderson Cancer Center. Patients identified their top five wishes as being at peace with God, having an ability to pray, having family present, being free of pain, and not being a burden to the family. It is important to consider these findings when evaluating elderly patients.

Abstract 9614 (S. Jamshed et al.) looked at the use of influenza vaccine in patients receiving chemotherapy. Seroconversion (the development of detectable antibodies in the blood that are directed against an infectious agent) in patients under age 65 using high-dose vaccine administered at the same time as chemotherapy was 80%, compared to only 40% to 58% with standard dose vaccine. Based on this finding, all cancer patients should be immunized with high-dose influenza vaccines during the next influenza season.

Abstract 9625 (A. Menendez et al.) looked at use of complementary and alternative (CAM) medications and diets. Before cancer diagnosis, patient use was 11%; after diagnosis, patient use had increased to 58%. However, of those who used CAM medications, only 23% told their physician. The conclusion:

Astonishingly, the occurrence of bankruptcy subsequently increased the mortality rate in cancer patients with a hazard ratio of 1.79. Obviously, financial considerations and needs must be taken into account when treating cancer patients.

better history should be taken when evaluating patients in oncology practices to determine concordant use of CAM medications, diet, and other practices.

Melanoma

Abstract 3003 (A. Ribas et al.) studied an experimental anti-PD-L1 drug MED14736 plus dabrafenib and trametinib in patients with metastatic melanoma. There was a 100% disease control rate, and 69% partial response rate, indicating the ability to combine targeted agents with immunotherapy.

Abstract 9004 (F. Hodi et al.) looked at the study CheckMate 069. Patients with stage III and IV melanoma randomized to nivolumab plus ipilimumab had a response rate of 60%, compared to only 11% of patients with ipilimumab alone. PFS had not been reached on the combination compared to 3.3 months on ipilimumab, which was significant. Toxic deaths were seen in about 4% of patients on the combination, but in no patients on the single drug.

Abstract 9006 (J. Larkin et al.) presented the results of the coBRIM study. Patients with stage IV melanoma who received the combination of vemurafenib with cobimetinib had a PFS of 12.5 months, compared to vemurafenib alone of only 7.3% months (HR 0.5). Mutation did not affect the results of these outcomes.

Abstract 9009 (H. Kluger et al.) studied pembrolizumab 10 mg/kg in patients with untreated brain metastases. Remarkably, 50% of patients showed a measurable decrease in metastases. Therefore, immunotherapy may have a role in patients with brain metastases in melanoma, and perhaps in other diseases as well.

Abstract 9019 (D. Johnson et al.) presented research on ipilimumab in patients who had autoimmune disease. Sixty-seven percent of those patients showed a flare of the autoimmune disease, but these were all managed by corticosteroids, and none of the patients had to stop the ipilimumab.

Abstract LBA1 (J. Wolchok et al.) compared the combination of nivolumab plus ipilimumab with nivolumab alone and with ipilimumab alone. PFS favored the combination (HR 0.57, P=0.001). In the 75% of the patients who were negative for expression of PD-L1 (less than 5% staining, a cut off which has been variable in different studies), the combination was superior to nivolumab alone and superior to ipilimumab alone, with a response rate of 72% in the combination versus 57% in the best single arm. However, response rates were equal in nivolumab versus the combination if the PD-L1 assay was over 5% (both of these groups were still superior in response rate to ipilimumab alone). Importantly, 36% of patients on the combination discontinued treatment, but two-thirds of the patients who discontinued treatments had improved response after the combination had been discontinued. This indicates continuing activity of the drugs even after the patient stops taking the drugs. The authors suggested that when an immediate response is needed, the combination would be better. However, the single agent use of nivolumab would be better when low toxicity was preferred.

This drug combination is very costly, and financial considerations need to be taken into account. In a plenary session titled "Perspectives on Value," Leonard Saltz, MD, of Memorial Sloan Kettering Cancer Center said that the cost of the combination was $295,000 for an 11.5 month course. Furthermore, if one were to use pembrolizumab at a dose of 10 mg/kg, Dr. Saltz said the cost would be $1,000,900 per year of treatment for one patient. Therefore, Dr. Saltz recommended that providers consider value when approving or using these drugs.

Abstract LBA9002 (U. Leiter et al.) looked at the use of sentinel lymph node biopsy with or without completion of regional lymph node dissection. In patients who had lymph node dissection, there was a decrease in regional lymph node recurrence, but surprisingly, no change in PFS or OS compared to patients who had positive sentinel lymph nodes but no completion regional lymph node dissection. Accordingly, consideration of delayed lymph node dissection at time of regional recurrence remains a strong option for certain patients.

Prostate Cancer

Abstract 5001 (N. James et al.) looked at the results of the STAMPEDE trial. In patients with metastatic or node-positive prostate cancer or patients with a PSA relapse who had not

received any hormonal therapy, the use of docetaxel was superior to the use of zoledronic acid with an overall survival of 77 months on docetaxel versus 67 months on zoledronic acid (HR 0.62). This finding suggests earlier use of chemotherapy in patients who have relapsing cancer.

Abstract 5003 (E. Small et al.) looked at the histology of patients who have a repeat biopsy following use of enzalutamide or abiraterone. Remarkably, 13% of such patients had converted to small cell prostate cancer and 26% had evolved into an intermediate atypical aggressive form of cancer. The OS of both groups was short, indicating that the use of these agents can be associated with a less favorable outcome of patients once they had relapsed and again indicating possible need for early and aggressive chemotherapy in such patients.

Abstract 5010 (P. Corn et al.) found that carboplatin was useful in castrate-resistant prostate cancer.

Abstract 5018 (G. Lu-Yao et al.) showed that the use of statin in prostate cancer patients was associated with a decreased prostate-specific mortality rate (HR 0.60). Furthermore, overall mortality was also reduced (HR 0.75). Use of metformin was not associated with any improved survival.

Abstract 5037 (C. Sweeney et al.) showed that cabozantinib plus abiraterone showed a 58% PSA response rate in castrate-resistant prostate patients.

Abstract 5066 (M. Gross et al.) found an 80% partial response rate in the combination of everolimus plus bevacizumab plus docetaxel.

Pediatric Oncology

Abstract 10073 (S. Mostoufi-Moab et al.) showed that adults who had survived pediatric tumors and who had received a transplant showed an increase in adipose tissue, a decrease in muscle mass, and an increase in osteopenia, as well as a high frequency of hormonal deficiencies. Therefore, primary care physicians and medical oncologists should consider younger adults (perhaps 30 years old) more like a patient with age-associated morbidities (perhaps like a 50 year old). This should improve the comprehensive evaluation of these patients and lead to improvement in health outcomes as these complications would be effectively treated.

Prevention

Abstract 1500 (D. Wickerham et al.) summarized the long-term results of the STAR P2 protocol. After 5 years of treatment with tamoxifen or raloxifene, the HR for survival in tamoxifen-treated patients (with a median follow up of 9.7 years) was 1.19 (P=0.01), versus raloxifene. Raloxifene was only 81% as active but did show a marked decrease in side effects of uterine cancer, with no osteoporosis. Therefore, the use of raloxifene as a cancer preventive (appropriate only in postmenopausal patients) can be strongly considered when avoidance of side effects is desired.

Abstract 1502 (R. Chlebowski et al.) looked at the effect of estrogen (Premarin) in preventing breast cancer. The use of Premarin reduced breast cancer (HR 0.79), but this effect was only seen in African-American patients (HR 0.40). African-

Americans were defined as over 80% African ancestry by patient self-reporting. Notably, there was no change in breast cancer incidence in white women who had been given Premarin.

Abstract 1505 (G. Oxnard et al.) looked at patients with lung cancer who had EGFR mutation at diagnosis involving a T790M mutation (the INHERIT EGFR study). Sixty-eight percent of such patients had germline mutations rather than somatic mutations in the tumor alone. Nearly all of these patients had a positive family history of cancers. Therefore, in patients with a T790M mutation, germline testing should be performed, and carriers should be screened with CT chest examination to detect cancer at the earliest stage.

Leukemia Lymphoma

Abstract LBA7005 (A. Chanan-Khan et al.) reported the results of the HELIOS study. In patients with CLL/SLL who were treated with ibrutinib plus bendamustine and rituximab for six months, continuation of ibrutinib showed an increased progression-free survival compared to continuing a placebo (HR 0.20, P <0.0001). Overall survival showed an HR of 0.62, P=0.06, but there was crossover to ibrutinib later in many patients. Although this would suggest that the combination would be the treatment of choice, the treatment with ibrutinib alone may be just as active.

Abstract LBA7006 (R. Mesa et al.) looked at the use of pacritinib in the PERSIST-1 trial. In patients with myelofibrosis with no prior therapy, randomization to pacritinib showed a 19.1% response in reduction of spleen size versus only 4.7% in patients randomized to hydroxyurea (P=0.0003). Reduction in symptoms was 35% versus 10% on hydroxyurea and transfusion independence was 26% versus 0% on hydroxyurea.

Abstract LBA8502 (L. Sehn et al.) reported data on patients with indolent non-Hodgkin lymphoma. Patients treated with bendamustine plus obinutuzumab showed a PFS advantage of 29 months versus only 14 months on bendamustine alone (HR 0.52, P=0.0001).

Mesothelioma

Abstract 7500 (G. Zalcman et al.) reported the results of the MAPS study. In patients with mesothelioma, the use of cisplatin plus pemetrexed plus bevacizumab showed a PFS of 9.59 months versus only 7.48 months on cisplatin plus pemetrexed alone (HR 0.61), and an OS of 18.9 months versus 16.1 months (HR 0.76, P=0.01). In a serious disease like mesothelioma, these data represent a significant improvement and bevacizumab use should be considered.

Small Cell Lung Cancer

Abstract 7502 (P. Ott et al.) looked at use of a PD-L1 inhibitor pembrolizumab in the KEYNOTE-028 study. The response rate was 35%.

Abstract 7503 (S Antonia. et al.) studied the combination of nivolumab plus ipilimumab in the CheckMate 032 study. The combination produced a response rate of 32%.

Pancreatic Neuroendocrine Tumors

Abstract 4005 (M. Kulke et al.) compared everolimus plus octreotide with the combination plus bevacizumab. The triplet treatment showed a PFS of 16.7 months compared to 14.0 months on the doublet (HR 0.8, P=0.12). The overall response rate on the triplet was 31% versus only 12% on the doublet, and time-to-treatment failure was equal.

Non-Melanoma Skin Cancer

Abstract 9000 (A. Martin et al.) presented findings from the ONTRAC prevention study where patients who had experienced significant numbers of non-melanoma skin cancers were randomized to nicotinamide or placebo. There was a 25% reduction in non-melanoma skin cancers observed, an important observation for cancer prevention in patients plagued with recurrent skin cancers.

Value Therapy in Oncology

As reported on page 52, in a plenary session, "Perspectives on Value," Dr. Saltz emphasized that providers should consider the cost of therapy when evaluating the relative value of improved outcomes.

Abstract 6504 (D. Schrag et al.) compared the cost of the equally effective treatments of FOLFIRI plus cetuximab with FOLFIRI plus bevacizumab in protocol 80405 of SWOG and CALGB. The cetuximab arm cost $105,000 and the bevacizumab arm cost $66,000. The conclusion: bevacizumab should be the preferred treatment based on value.

Abstract 6507 (A. Lipitz Snyderman et al.) evaluated the Choosing Wisely program. Compliance with the program's recommendation of no PET or bone scan in low-risk prostate cancer was only 41%. Compliance with no imaging in low-risk breast cancer was only 27%. Compliance with the guideline of no IMRT in breast cancer patients following lumpectomy was only 27%. In the prostate and lumpectomy categories, any use of those procedures in prior patients was associated with a marked increased use of the modality in subsequent patients, suggesting that this was not dependent upon individual patient characteristics but rather a common practice of using those modalities in all patients. Takeaway message: careful consideration of the Choosing Wisely recommendations should be important to physicians.

Colorectal Cancer

Abstract 3502 (P. Gibbs et al.) reported that the use of SIRT in patients with colorectal cancer metastases showed an improvement in PFS in patients with liver metastases (HR 0.60, P=0.02) compared with no SIRT, but with no change in OS. Use of the combination of radioembolization plus chemotherapy (SIRFLOX study) showed no change in overall PFS in patients with other than liver metastases. Therefore, use of the radioembolization was appropriate only in patients who had liver metastases.

Abstract 3503 (K. Ng et al.) looked at the results of SWOG study 80405. Patients who had the highest levels of vitamin D showed an improved OS (HR 0.65) and an improved PFS (HR 7.9). Since vitamin D levels can be modified, this may represent an area for individualized treatment of patients to maintain higher levels of vitamin D.

Abstract 3510 (F. Loupakis et al.) reported the results of the TRIBE study. Patients with metastatic disease who used FOLFOXIRI plus bevacizumab showed a median overall survival of 29.8 months versus only 25.8 months on FOLFIRI plus bevacizumab (HR 0.8, P=0.03).

Abstract LBA100 (D. Le et al.) looked at the use of pembrolizumab in patients with proficient versus deficient mismatch repair (MMR). In colorectal cancer patients with deficient MMR (which is 15% of all colorectal cancer specimens), the response rate was 62%. In patients who were proficient in MMR, response rate was 0%. Surprisingly, in patients who had Lynch-associated tumors other than colorectal cancer who were also MMR deficient, the response rate was 71%.

Bladder Cancer

Abstract 4504 (D. Quinn et al.) looked at the use of eribulin in urothelial cancers. The response rate was 35%; OS was 9.5 months. This drug has activity that can be utilized in patients with this disease.

Ovarian Cancer

Abstract 5509 (M. Disis et al.) studied the use of adalimumab, an anti-PD-L1 drug. The response rate was 10.7%, but the disease control rate was 55%, indicating activity in this disease.

Abstract 5510 (A. Varga et al.) looked at the use of pembrolizumab in ovarian cancer patients with PD-L1 positive disease. The response rate was 11.5%.

Abstract 6512 (M. Simon et al.) evaluated compliance with the Choosing Wisely campaign. Compliance with end-of-life recommendations was only 73%, compliance with breast staging recommendations was only 77%, and compliance with breast surveillance recommendations was only 59%.

Head and Neck Cancer

Abstract 6009 (H. Mehanna et al.) looked at the use of PET scans in determining who should have a neck dissection for primary disease management. Patients were randomized to have a neck dissection immediately; or to PET-guided therapy. Patients on the PET-guided arm had a PET scan, and if the PET scan was negative patients were simply observed, versus if the PET scan was positive, a neck dissection was performed. OS was equal among the arms randomized to PET scan-guided therapy versus patients who had a planned neck dissection alone. Only 19% of patients who had a PET scan performed had a neck dissection, versus 100% of patients, of course, on the neck dissection arm. Cost savings were approximately 1,400 euros (or about $1,568) per patient.

Abstract LBA6008 (T. Seiwert et al.) reported on findings on use of pembrolizumab 200 mg every three weeks in patients with metastatic head and neck cancer. The response rate was 25%, with 56% showing at least some reduction in tumor size.

Hepatoma

Abstract LBA101 (A. El-Khoueiry et al.) showed that nivolumab produced a 23% response in patients with advanced hepatocellular carcinoma.

Sarcomas

Abstract LBA10502 (P. Schöffski et al.) looked at patients with adipocytic sarcoma and leiomyosarcoma. Patients randomized to eribulin showed an OS of 13.5 months, compared to only 11.5 months with the use of dacarbazine [DTIC] (HR 0.77, P=0.02).

Abstract 10503 (G. Demetri et al.) looked at second-line therapy of liposarcoma and leiomyosarcoma. Patients randomized to trabectedin (available in over 80 countries) showed an equal survival compared to patients treated with DTIC. PFS was 4.2 months on trabectedin and only 1.5 months on DTIC (HR 0.55, P=0.0001).

Abstract 10504 (O. Mir et al.) looked at the use of regorafenib. Patients randomized to regorafenib showed a PFS of 3.7 months, compared to only 1.9 months on placebo.

Abstract 10506 (J. Blay et al.) reported the results of the PAZOGIST trial. In patients who were resistant to sunitinib and imatinib, patients randomized to pazopanib showed a PFS at 4 months of 45% versus only 18% on best supportive care (HR 0.59, P=0.03).

General Health Services

Abstract 6512 (M. Simon et al.) evaluated compliance with the Choosing Wisely campaign. Compliance with end-of-life recommendations was only 73%, compliance with breast staging recommendations was only 77%, and compliance with breast surveillance recommendations was only 59%. Although these findings indicate room for improvement, the authors had not looked at these compliance rates in relationship to co-morbidities and symptoms, which have caused changes in breast staging and changes in breast surveillance numbers. Regardless, evaluating patients near the end of life is important to comply with the Choosing Wisely campaign.

Brain Metastases

Abstract LBA4 (P. Brown et al.) reported the results of the Alliance protocol N0574. In patients with one to three brain metastases, all less than 3.0 cm, the addition of whole brain radiation therapy to stereotactic radiosurgery resulted in a cognitive decline of 91.7%, compared to only 63.5% on stereotactic radiosurgery alone. The difference observed at three months was persistent at six months. OS was statistically equal on each arm, but the quality of life measures were reduced on the patients who had whole brain radiation therapy. Deficiencies in cognitive function were evident in decreased recall, decreased communication, and decreased memory. There was a higher resection rate in patients who had stereotactic radiosurgery.

Conclusions

As you can see, diverse and interesting research results were presented at ASCO 2015. These studies will all be published, and I urge readers to pay close attention to the details as final results are reported in peer-reviewed published papers. Nevertheless, consideration of many of these findings is appropriate as we evaluate each of our patients. OI

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