PANCREATIC CANCER: NEWS & UPDATES

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Cancer Drug Effectiveness Substantially Advanced
http://www.burnham.org/default.asp?contentID=964
http://www.medicalnewstoday.com/articles/184883.php
Researchers have shown that a peptide called iRGD helps co-administered drugs penetrate deeply into tumor tissue. The peptide has shown to increase treatment efficacy against human breast, prostate and pancreatic cancers in mice, achieving the same therapeutic effect as a normal dose with one-third as much of the drug. Dr. Erkki Ruoslahti reports drugs generally have difficulty penetrating tumors beyond a few cell diameters from a blood vessel. This leaves some tumor cells with a suboptimal dose, increasing the risk of both recurrence and drug resistance. The iRGD peptide solves this problem by activating a transport system in tumors that distributes co-injected drugs into the entire tumor and increases drug accumulation in the tumor.

Blocking Gene Boosts Radiotherapy
http://www.aacr.org/home/public--media/aacr-in-the-news.aspx?d=1788
Tumors can differ widely in the way they respond to radiotherapy - but the reasons for these differences are largely unknown. University of Oxford researchers found a gene that hinders the ability of radiotherapy to kill cancer cells. The team found that if they blocked the POLQ gene - which has a role in repairing damaged DNA - radiotherapy was more effective. After pinpointing the POLQ gene, they found that blocking it in several different types of cancer cells in the laboratory, including pancreatic tumors, rendered the cells more vulnerable to the effects of radiation. This discovery could lead to new drugs to boost radiotherapy.

Study Suggests that Tocotrienol has a Common Cancer-Killing Mechanism for Different Cancer Types
http://www.prnewswire.com/news-releases/study-suggests-that-tocotrienol-has-a-common-cancer-killing-mechanism.html
Davos Life Science and University of Hong Kong researchers have shown that gamma-tocotrienol, a member of the vitamin E family, is potent in killing pancreatic, breast, melanoma, and prostate cancer cells. Gamma-tocotrienol is one of eight forms of vitamin E found in low levels in food sources such as palm fruits, cereal grains and rice bran. Davos Life Science is currently conducting a US phase I trial in resectable exocrine pancreatic tumor or cyst at the Moffitt Cancer Center.

New Agent Chokes Off Energy Supply, Kills Cancer Cells
http://www.medicalnewstoday.com/articles/184829.php
Cancer cells grow so fast that they can outstrip their blood supply, leaving them short of oxygen. The cells then produce energy in a way that needs less oxygen but more sugar. Researchers at the Ohio State University and Richard J. Solove Research Institute have designed an experimental drug that chokes off that sugar supply, causing the cells to self destruct. The agent, called OSU-CG12, is an example of a new class of anticancer drugs called energy-restriction mimetic agents.

Mount Sinai Study Finds Only a Weak Link Between Fruit and Vegetable Intake and Reduced Risk of Cancer
http://www.acor.org/news/display.html?id=9463
A new study challenges the widespread belief that a diet rich in fruits and vegetables helps protect against cancer. US researchers analyzed data from more than 470,000 men and women in 10 European countries and found only a weak association between high intake of fruits and vegetables and reduced cancer risk. The study did find that heavy drinkers who ate plenty of fruits and vegetables had a somewhat reduced risk, but only for cancers associated with smoking and alcohol. The researchers report that any cancer protective effect of fruits and vegetables is likely to be modest.

Focusing on Older Cancer Patients: A Clinical Need and a Research Necessity
http://www.cancer.gov/ncicancerbulletin/040610/page8
People aged 65 and older represent approximately 60% of cancer patients and account for 70% of annual cancer deaths. As the US population continues to age, these percentages will continue to grow, yet there is a dearth of evidence on how to best treat older patients. The evidence deficit includes not just which therapies are most effective, but also how to approach the unique needs of patients who, because of their age, metabolize drugs differently, are more likely to have other illnesses, and are more prone to problems such as depression, dementia, falling, and poor nutrition—all of which can influence treatment efficacy. Clinical trials typically include few older patients and those without other significant illness; however, this does not reflect real life in an aging society.

Abraxis BioScience Says Abraxane Plus Gemcitabine Increases Survival in Advanced Pancreatic Cancer In Phase I/II Study
http://phx.corporate-ir.net/phoenix.zhtml?c=21734$p=irol-newsArticle&ID=1313100&highlight=
http://www.medicalnewstoday.com/articles/186408.php
Abraxis BioScience, Inc. announced updated overall survival findings from a phase I/II study of Abraxane with gemcitabine. In 44 patients treated at the recommended dose of 125 mg/m^2 of Abraxane plus gemcitabine (1000 mg/m^2), the median overall survival time was 12.2 months, a doubling of survival compared to historical control of gemcitabine administered alone. According to this study, the combination of Abraxane and gemcitabine has substantial antitumor activity.

TGen-Asuragen Partner to Advance Pancreatic Cancer Research
http://www.genengnews.com/news/bnitem.aspx?name=80267778
http://www.medicalnewstoday.com/articles/185842.php
The Translational Genomics Research Institute (TGen) and Asuragen Inc. partnered to search for new ways of screening patients for pancreatic cancer that could lead to ways of detecting it before it spreads. The project will combine the microRNA expertise and diagnostic development experience of Asuragen, with TGen's strengths in basic and clinical research.

Federal Cancer Research is "At a Breaking Point," IOM Study Finds - Lack of Funding, Poor Management to Blame
http://www.msnbc.msn.com/id/36565163/ns/health-cancer/
http://www.medicalnewstoday.com/articles/185804.php
An Institute of Medicine panel reported that the system for conducting cancer clinical trials in the US is "at a breaking point" and needs a major overhaul. Inefficient management, complicated government oversight and inadequate funding hamper the ability of the National Cancer Institute's Clinical Trials Cooperative Group Program to design and run studies that answer important questions about new therapies.

Personalized Medicine for Cancer Patients in a New Technology Era
http://www.eurekalert.org/pub_releases/2010-04/ra-pmf041410.php
http://www.acor.org/news/display.html?id=9488
Published online in *Nature*, a paper authored by over 200 members of the International Cancer Genome Consortium describes the beginnings of a new era of personalized medicine for cancer patients. Formed in 2008, the consortium brings together leading cancer researchers from around the world, working together to catalogue the genetic changes of the 50 most common cancers - 500 genomes from each cancer type – and make the results freely available on the internet. "Given the tremendous potential for relatively low-cost genomic sequencing to reveal clinically useful information, we anticipate that in the not so distant future, partial or full cancer genomes will routinely be sequenced as part of the clinical evaluation of cancer patients," state the authors of the paper.

MIT Cancer Biologists Have Shown How Resistance to Cisplatin Arises
http://www.acor.org/news/display.html?id=9489
For 30 years, the chemotherapy drug cisplatin has been one of doctors' first lines of defense against lung, testicular, and ovarian cancer. While cisplatin is often effective when first given, it has a major drawback: Tumors can become resistant to the drug and start growing again. Now, MIT cancer biologists have shown how that resistance arises, a finding that could help researchers design new drugs that overcome cisplatin resistance. Cisplatin and other platinum-based cancer drugs destroy tumor cells by binding to DNA strands, interfering with DNA replication. That activates the cell's DNA repair mechanisms, but if the

damage is too extensive to be repaired, the cell undergoes programmed suicide. Eventually, cancer cells learn to fight back. The new study shows that tumor cells treated with cisplatin ramp up their DNA repair pathways, allowing them to evade cell death.

Another Cancer Battle: Costs
http://online.wsj.com/article/SB10001424052702304506904575179852737474096.html
http://blogs.wsj.com/health/2010/04/12/financial-aid-for-cancer-patients-strained-after-deluge-of-requests/
While cancer patients and their families can turn to support groups for help with dealing with the rigors of cancer and treatment, it is far more difficult to get help with the growing financial burdens of care. Patient advocacy groups are stepping up programs to help identify patients under duress from financial woes and steer them to help. The Patient Access Network and four other non-profit groups that help insured patients with all or part of co-payments for medications paid out a total of $274.7 million last year, an increase of 52.7% over the previous year. Applications for aid rose more than 26% in the same period.

Cost of Cancer Care Makes Patients Vulnerable to Posttraumatic Stress Syndrome
http://www.medscape.com/viewarticle/720643?sssdmh=dm1.613092&src=nldne&uac=61043SJ
The financial strain related to cancer treatment and care can make cancer patients and their family vulnerable to posttraumatic stress syndrome, according to the results of a pilot study. Trying to cope with the financial impact of cancer care was associated with symptoms that included extremely high levels of anxiety, depression, and other mental health problems. Researchers report that more than 80% were experiencing moderate to severe stress in managing the cost of care, and over 40% were in the severe range. The pilot study aimed to learn more about the burden of the cost of cancer care, its impact on patients and families, and resources such as financial assistance programs and why they are not used more frequently.

Many Terminal Cancer Patients May Be Overtreated
http://www.nlm.nih.gov/medlineplus/news/fullstory_97491.html
Researchers report that many patients with terminal cancer don't benefit from getting radiation therapy designed to help them feel better by controlling symptoms like pain. The researchers say doctors are failing to properly adjust treatments to meet the needs of these patients. In some cases, the radiation therapy is a product of undue optimism about a patient's chances of survival.

Possible Option for Inoperable Pancreatic Cancer - Preoperative/Neoadjuvant Therapy
http://www.medpagetoday.com/HematologyOncology/OtherCancers/19687
http://www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1000267
Neoadjuvant chemotherapy or radiotherapy may enable some patients with locally advanced nonmetastatic pancreatic cancer to have their tumor removed. According to a systematic review of 111 studies, neoadjuvant therapy allowed 33.2% of patients with nonresectable tumors to undergo surgery. Median survival was similar in these patients and in those who were determined to have resectable tumors before neoadjuvant therapy (20.5 versus 23.3 months). Survival for both groups was within the range for patients who undergo surgery with adjuvant therapy (20.1 to 23.6 months).

Karmanos Cancer Institute Researchers Use Soy Derivative to Improve Pancreatic Cancer Treatment
http://www.prnewswire.com/news-releases/karmanos-cancer-institute-researchers-use-soy-derivative-to-improve-pancreatic-cancer.html
Scientists at the Barbara Ann Karmanos Cancer Institute in Detroit presented data at AACR's 101st Annual Meeting that shows when genistein, a component of soy, is paired with the FDA-approved drug oxaliplatin, pancreatic cancer cells become more sensitive to chemotherapy. Researchers have shown in vitro and in orthotopic xenograft mouse models that by pre-treating pancreatic cancer cells with genistein and then using low concentrations of oxaliplatin, the viability of those cancer cells is significantly reduced and cell death is increased. They also found that spread of the cancer cells to lymph nodes surrounding the pancreas was reduced.

Immunomedics Reports New Blood Test for Detecting Early Stage Pancreatic Cancer Correlates with Response to Clivatuzumab Treatment
http://www.marketwatch.com/story/immunomedics-reports-new-blood-test-for-detecting-early-stage-pancreatic-cancer-correlates-with-response
Immunomedics reported at the AACR meeting that a new blood test using the company's proprietary humanized antibody, clivatuzumab or PAM4, predicted a partial response in an initial set of pancreatic cancer patients treated with a combination of the antibody labeled with yttrium-90 (Y-90) and gemcitabine. They reported that the blood assay for PAM4-protein can not only detect early-stage pancreatic cancer, but may also predict a lack of response to therapy or an early relapse. The company recently developed a new serum-based enzyme immunoassay (ELISA) employing clivatuzumab that has a sensitivity of 62% for detecting stage-1 pancreatic cancer, 86% for stage 2 disease, and 91% for stage 3/4 cancers.

Chemotherapy Plus Synthetic Compound Provides Potent Anti-Tumor Effect in Pancreatic Cancers
http://www.sciencedaily.com/releases/2010/03/100323133045.htm
UT Southwestern Medical Center researchers report that human pancreatic cancer cells dramatically regressed when treated with chemotherapy in combination with a synthetic compound (JP1201) that mimics the action of a naturally occurring "death-promoting" protein found in cells. The research, conducted in mice, could lead to more effective therapies for pancreatic cancer. JP1201 enhanced the efficacy of chemotherapy and improved survival in multiple animal models of pancreatic cancer.

New Molecular Therapy Candidates for Pancreatic Cancer
http://www.sciencedaily.com/releases/2010/04/100419102419.htm
Insulin-like growth factor-I (IGF-I) is upregulated in human pancreatic cancer tissues but is not expressed in surrounding non-cancerous tissues. Serum level of IGF-I is elevated in pancreatic cancer patients. These facts suggest that IGF-I acts as a growth factor for pancreatic cancer and inhibition of its action might be a good candidate for molecular therapy of pancreatic cancer. A research team from Japan has shown that inhibition of IGF-IR activity results in a decrease in proliferation and motility of pancreatic cancer cell lines.

Researchers Modify Virus to Hunt Down and Wipe Out Cancer Cells
http://www.medicalnewstoday.com/articles/186451.php
Cancer Research UK scientists at the University of Leeds have developed a new way of modifying viruses to seek out and destroy cancer cells. The researchers exploited the unique markers that appear on the surface of cancer cells to engineer a range of proteins that recognize and attach to these markers. These 're-targeting' proteins can be added to a virus so that it recognizes and infiltrates cancer cells. The virus can then deliver genes that can make cancer cells more sensitive to drugs, introduce 'suicide' genes to the cancer cell or replace the missing and defective genes that caused the cancer to develop.

Preoperative/Neoadjuvant Therapy in Pancreatic Cancer
http://www.plos.org/press/plme-07-04-kleeff.pdf
http://www.eurekalert.org/pub_releases/2010-04/plos-pti041510.php
There is a strong rationale for a neoadjuvant approach since a relevant percentage of pancreatic cancer patients present with non-metastatic but locally advanced disease, and microscopic incomplete resections are common. The objective of the present analysis was to systematically review studies concerning the effects of neoadjuvant therapy on tumor response, toxicity, resection, and survival percentages in pancreatic cancer.

Is COX-2 Expression a Valuable Independent Prognostic Factor in Pancreatic Cancer?
http://www.wjgnet.com/1007-9327/pdf/v16/i15/1879.pdf
http://www.eurekalert.org/pub_releases/2010-04/wjog-ice042010.php
Researchers analyzed COX-2 expression in pancreatic adenocarcinoma tissue samples. They concluded that the COX-2 expression does not seem to represent a valuable independent prognostic factor and is not superior to the conventional prognostic factors.

Molecular Marker Could Help Spot Pancreatic Cancer Early
http://www.eurekalert.org/pub_releases/2010-04/uonc-mmc042210.php
http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0010347
Researchers at the University of North Carolina at Chapel Hill have identified a molecular marker of pancreatic cancer that may help spot the disease at its earliest stages, when it can be treated more successfully with surgery. Researchers showed that a specific form of a protein called "paladin" is produced in large amounts in the "tumor nest," the cells that surround a pancreatic tumor. By measuring the levels of this form of palladin in patient samples, doctors could have an improved way to screen for the deadly cancer, possibly catching it earlier than ever before.

Durable Responses Seen in Pancreatic Cancer
http://www.medpagetoday.com/MeetingCoverage/AACR/19758
Some patients with advanced pancreatic cancer had durable responses lasting beyond a year when an inhibitor of insulin-like growth factor was added to chemotherapy, data from a small phase I clinical trial showed. This finding leads investigators to believe there is a subset of patients in whom IGF-1R is integral to pancreatic cancer. The next step is to identify which patients these are and select them in an attempt to personalize their care.

Hope and Noncurative Chemotherapies: Which Affects the Other?
http://jco.ascopubs.org/cgi/content/full/28/13/2310?ct
Hope plays an important role in patients facing incurable cancer. There is a growing awareness that nurturing hope is one of the most important tasks in the oncology clinic. This article explores the complexity of hope in those with late-stage cancer, its impact on the well-being of individuals, and the role of hope in the delivery of health care services.

Abstracts

Phase II Trial of Glufosfamide in Combination with Gemcitabine in Chemotherapy-Naïve Pancreatic Adenocarcinoma
http://journals.lww.com/amjclinicaloncology/pages/articleviewer.aspx?year=2010&issue=04000&article=00001&type=abstract
The combination of glufosfamide plus gemcitabine is active in pancreatic cancer. However, hematologic and renal toxicity were pronounced. Alternative dosing of glufosfamide plus gemcitabine should be explored.

Analysis of 5-Year Survivors After a Macroscopic Curative Pancreatectomy for Invasive Ductal Adenocarcinoma
http://www.ncbi.nlm.nih.gov/pubmed/20376443
Limited cancer extension with negative lymph node metastases significantly contributes to the chance of surviving more than five years. A low incidence of intrapancreatic nerve invasion in the five-year survivors favorable affects subsequent survival.

Safety and Activity of Masitinib in Combination with Gemcitabine in Patients with Advanced Pancreatic Cancer
http://www.ncbi.nlm.nih.gov/pubmed/20364428
The efficacy and safety of masitinib combined with gemcitabine in advanced pancreatic cancer are encouraging.

Alcohol Intake and Pancreatic Cancer; A Pooled Analysis from the Pancreatic Cancer Cohort Consortium (PanScan)
http://www.ncbi.nlm.nih.gov/pubmed/20373013
Researchers observed no significant overall association between total alcohol intake and pancreatic cancer risk. A statistically significant increase in risk was observed among men consuming 45 or more grams of alcohol from liquor per day compared to 0 g/day of alcohol from liquor. No associations were noted for wine or beer intake. Overall, no significant increase in risk was observed, but a small effect among heavy drinkers cannot be ruled out.

Evidence-Based Management of Pancreatic Malignancy
http://www.surgical.theclinics.com/issues/contents?issue_key=S0039-6109%2810%29X0002-0
The April 2010 issue of *Surgical Clinics of North America* focuses on evidence-based management of pancreatic malignancy. The following topics are addressed:

- Laparoscopic management of pancreatic malignancies
- Curative radiation therapy for pancreatic malignancies
- Adjuvant and neoadjuvant therapy in curable pancreatic cancer
- Outcomes in pancreatic cancer surgery
- Evidence-based imaging of pancreatic malignancies
- Palliative chemotherapy for pancreatic malignancies
- Palliation in pancreatic cancer
- Pancreatic cystic neoplasms
- Diagnostic evaluation of pancreatic cystic malignancies

For a brief description of each of the above issues, visit
http://download.journals.elsevierheatlh.com/pdfs/journals/0039-6109/PIIS0039610910000241.pdf

Pancreatic Proteolytic Enzyme Therapy Compared with Gemcitabine-Based Chemotherapy for the Treatment of Pancreatic Cancer
http://jco.ascopubs.org/cgi/content/abstract/28/12/2058
The National Cancer Institute sponsored a randomized, phase III, controlled trial of proteolytic enzyme therapy versus chemotherapy. Because most eligible patients refused random assignment, the trial was changed in 2001 to a controlled, observational study. Of 55 patients who had inoperable pancreatic cancer, 23 elected gemcitabine-based chemotherapy, and 32 elected enzyme treatment, which included pancreatic enzymes, nutritional supplements, detoxification, and an organic diet. At one year, 56% of chemotherapy-group patients were alive, and 16% of enzyme-therapy patients were alive. The quality of life ratings were better in the chemotherapy group than in the enzyme-treated group ($P < .01$). Patients who chose gemcitabine-based chemotherapy survived more than three times as long (14.0 *vs* 4.3 months) and had better quality of life than those who chose proteolytic enzyme treatment.

Evolution of Systemic Therapy for Advanced Pancreatic Cancer
http://www.ncbi.nlm.nih.gov/pubmed/20397918
The prognosis for advanced pancreatic cancer remains poor, and successful drug development continues to be a major challenge. In the last decade, the approach to drug development in pancreatic cancer has included a focus on combinations of cytotoxic agents. While some promising results were seen in phase II studies, none of the Phase III trials of cytotoxic combinations were able to demonstrate an improvement in overall survival over that seen with the single-agent gemcitabine. Newer studies have assessed the efficacy of 'targeted' agents that inhibit pathways thought to be important in the development, growth, invasion and metastasis of pancreatic cancer. There is a need to better understand the biology of the disease and incorporate this into trials in an attempt to search for predictive and prognostic markers that will aid in drug development.

Phase II Study of Paclitaxel Plus the Protein Kinase C Inhibitor Bryostatin-1 in Advanced Pancreatic Carcinoma
http://www.ncbi.nlm.nih.gov/pubmed/19738452
http://journals.lww.com/amjclinicaloncology/pages/articleviewer.aspx?year=2010&issue=04000&article=00003&type=abstract
The study evaluated the efficacy and toxicity of bryostatin-1 plus paclitaxel in patients with advanced pancreatic carcinoma. Nineteen patients with locally advanced unresectable or metastatic pancreatic adenocarcinoma received a total of 52 cycles of therapy as first-line therapy for advanced disease or after prior chemotherapy used alone or in combination with local therapy. No patients had a confirmed objective response. The median time to treatment failure was 1.9 months. Reasons for discontinuing therapy included progressive disease, death, adverse events or patient choice. The combination of weekly paclitaxel and bryostatin-1 is not an effective therapy for patients with advanced pancreatic carcinoma.

Second-Line Chemotherapy with Capecitabine and Docetaxel in Previously Treated, Unresectable Pancreatic Adenocarcinoma: Final Results of a Phase II Trial
http://www.ncbi.nlm.nih.gov/pubmed/20428874

Thirty-one patients with pancreatic adenocarcinoma, pre-treated with gemcitabine-based chemotherapy, were treated with capecitabine and docetaxel every 3 weeks. 93.6% had a performance status of 0-1 and 96.8% had stage IV disease. Patients received a median of 4 cycles/patient. The main reason for treatment discontinuation was disease progression. Partial response was observed in three (9.7%) patients, stable disease in seven (22.6%) and disease progression in 21 (67.6%). The median progression-free survival was 2.4 months and the median overall survival was 6.3 months; the estimated one-year survival rate was 14.7%. After two chemotherapy cycles, pain control occurred in 20% of patients and stabilization of body weight in 40%. The combination of docetaxel/capecitabine may confer good disease control associated with improvement of quality of life as second-line chemotherapy in patients with metastatic pancreatic cancer.

Incidence of Benign Disease in Patients Who Underwent Resection for Presumed Pancreatic Cancer Diagnosed by Endoscopic Ultrasound (EUS) and Fine-Needle Aspiration (FNA)
http://www.ncbi.nlm.nih.gov/pubmed/20424928
The lack of accurate markers makes preoperative differentiation between pancreatic cancer and non-malignant head lesions clinically challenging. In this study, investigators examined the incidence of benign disease in patients that underwent resection for presumed pancreatic cancer diagnosed by EUS and EUS-guided FNA. Medical records of consecutive patients who underwent pancreaticoduodenectomy at Duke University were reviewed. Seven percent of the total 494 patients studied were found to have benign disease on postoperative pathology. Fifty-nine percent of patients with benign disease underwent preoperative EUS. EUS was positive for a head mass in 70%, demonstrated enlarged lymph nodes in 27%, and showed signs concerning for vascular invasion in 13%. FNA was suspicious or indeterminate for cancer in 63% of patients. Even with aggressive use of preoperative evaluation, there is still a small subset of patients where malignancy cannot be excluded without pancreaticoduodenectomy.

Multicenter Analysis of Distal Pancreatectomy for Adenocarcinoma: Is Laparoscopic Resection Appropriate?
http://www.ncbi.nlm.nih.gov/pubmed/20421049
As compared with open distal pancreatectomy (ODP), laparoscopic distal pancreatectomy (LDP) affords improved perioperative outcomes. The role of LDP for patients with pancreatic ductal adenocarcinoma is not defined so records from patients undergoing distal pancreatectomy (DP) for PDAC from nine academic medical centers were reviewed. There were 212 patients who underwent DP for PDAC; 23 (11%) of these were approached laparoscopically. In the matched analysis there were no significant differences in characteristics like positive margin rates, number of nodes examined, or overall survival. Logistic regression for all 212 patients demonstrated that advanced age, larger tumors, positive margins, and node positive disease were independently associated with worse survival; however, method of resection (ODP vs. LDP) was not. LDP provides similar short- and long-term oncologic outcomes as compared with OD, with potentially shorter hospital stay. These results suggest that LDP is an acceptable approach for resection of PDAC in selected patients.

Immuno- and Gene-Therapeutic Strategies Targeted Against Cancer
http://www.ncbi.nlm.nih.gov/pubmed/20425541
Current treatment modalities of surgical resection and chemotherapy against cancers have improved survival but mortality from tumor recurrence remains high. Immunotherapy and gene therapy are potential additions to the treatment arsenal in the care of cancer patients.