Oral Chemotherapy Panel

Robert Ignoffo, PharmD, FASHP, FCSHP
Beth Chen, PharmD, BCOP
Sarah Hudson-DiSalle, PharmD, R.Ph.
Robert Mancini, PharmD, BCOP

Panel Disclosures
Dr. Chen & Dr. Hudson-DiSalle – no relevant financial relationships exist with commercial interests
Dr. Mancini – Speaker’s Bureau for Millennium Pharmaceuticals and Consultant for Glaxo Smith Klein

Dr. Ignoffo’s Disclosures
• No current affiliations with Pharmaceutical Companies
• Asst. Dean of Student Services at Touro University
• Golfer with a goal of winning the US Amateur Golf Tournament
• Father to 3 daughters
• Manager of a Basketball team (aka Grandfather to 5 grandsons)

Andre (7), Emmett (4), David (9), Max (2), Samuel (11)

Learning Objectives
• Identify barriers to the effective use and monitoring of oral oncology agents.
• Summarize the financial and personal obstacles in obtaining and dispensing oral oncology agents.
• Describe three patient education issues that should be discussed with patients receiving oral oncology agents.
• List the types of practice models that can be implemented to manage patients receiving oral oncology agents (e.g. Transitional care, Pharmacy-managed clinics, Collaborative Practice Agreements, Specialty Pharmacy practice)

Introduction
• Oral anticancer drugs make up about 25% of all new entities for the treatment of cancer
• Several agents are traditional cytotoxic drugs, but many of newer agents are targeted oral agents
Issues concerned with Oral Anticancer Drugs

• New paradigm of treatment—a pill rather than an injection
• Absorption—Food-drug interactions
• Increased risk of Drug-Drug Interactions
• Access to Drugs
• Reimbursement for drug and services

Barriers to the effective use and monitoring of oral oncology agents

Beth Chen, PharmD, BCOP
Oncology Clinical Specialist
Biologics, Inc.

Barriers to Effective Use

• Setting in which patients receive their drug therapy is changing from clinics/hospitals to home.
• This shift causes a number of challenges
  • Education
  • Adherence
  • Monitoring
  • Procurement

Barriers to Effective Use: Education

• Wide range of information to cover
  • Administration, side effects, drug interactions, safe handling
  • How do we ensure the patient understands everything?
• Inconsistency
  • Who educates? (Physician, midlevel, nurse, pharmacist)
  • When does education take place?
  • What information is covered?
  • Patient may receive contradicting information

Barriers to Effective Use: Adherence

What Impacts Adherence?

Personal Factors
Health beliefs
Social support
Socioeconomic status
Education level

Treatment Factors
Schedule
Immediacy of benefit
Side effects
Cost

Interaction with System
Satisfaction with care
Insurance coverage
Convenience
Educational resources


Barriers to Effective Use: Adherence

• Not directly observed as with intravenous (IV) therapy
• Patients may feel worse while on therapy
• Oral cancer therapies often taken chronically
• Optimal method of measuring adherence is unclear
  • Self-report
  • Pill counts
  • Written documentation (calendars, diaries)
  • Refill monitoring
  • Microelectronic monitoring systems (MEMS)
Barriers to Effective Use: Monitoring

- Monitoring more challenging than with IV therapies
  - Patient may not see health care provider before drug is dispensed
  - Longer time may elapse between office visits
- Patients may be on oral therapy chronically
  - Monitoring should occur for duration of treatment
  - Different type of side effects (cardiovascular, skin, metabolic, diarrhea)
- Proactive approach to monitoring necessary

Barriers to Effective Use: Procurement

- Patients may obtain oral therapy from variety of sources
  - Clinic pharmacy, retail, specialty or combination
  - Depends on insurance, availability, convenience
- Integrating patient care from different settings is challenging
  - Oral therapies have dispensing challenges
  - REMS (Risk Evaluation and Mitigation Strategy)
  - Limited distribution
  - Contract requirements to dispense
  - Cost

Summarize the financial and personal obstacles for patients when obtaining oral oncology agents.

Sarah Hudson-DiSalle, PharmD, R.Ph.
Specialty Practice Pharmacist
The Arthur G. James Cancer Hospital and Richard J. Solove Research Institute

What are the obstacles for oral chemotherapy?

- Patients with costs >$200 per month are 3 times more likely to not fill prescriptions
- Insurance plans disadvantage oral chemotherapy by placing them into the specialty tier benefit
  - Results in decreased drug costs for payers at the expense of patients
- HOPA health policy agenda:
  - Improve access to oral chemotherapy for all patients

<table>
<thead>
<tr>
<th>Medication</th>
<th>Average Price</th>
<th>Sample Copays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenalidomide 25mg</td>
<td>$11,016</td>
<td>$1,200</td>
</tr>
<tr>
<td>Nilotinib 150mg</td>
<td>$9,849</td>
<td>$2,800</td>
</tr>
<tr>
<td>Temozolomide 250mg</td>
<td>$2,400</td>
<td>$400</td>
</tr>
<tr>
<td>Crizotinib 250mg</td>
<td>$11,768</td>
<td>$1,000</td>
</tr>
<tr>
<td>Abiraterone 250mg</td>
<td>$5,821</td>
<td>$580</td>
</tr>
<tr>
<td>Capecitabine 500mg</td>
<td>$11,590</td>
<td>$1,500</td>
</tr>
</tbody>
</table>

Health Insurance Coverage in the U.S., 2011

- Total = 307.9 million

Who are in the underinsured?

- Insured patients who lack financial ability to cover out-of-pocket medical care expenses
  - High deductibles/copays
  - Formulary restrictions
  - Specialty tiers
Groups at most risk

- Medicare
  - Not eligible for Low Income Subsidy
  - High copays-specialty tiers
    - Part B
    - Part D
- Medicaid
  - High spend-downs
- Commercial insurance
  - High deductibles/copays
  - Formulary restrictions
  - Specialty tiers

Pharmacist role in overcoming obstacles with oral chemotherapy (1)

- Step 1: Assess the patient’s ability to pay for the medication
  - Is the issue drug/disease state specific?
    - One or two medication co-pay issues vs. coverage specific (i.e. donut hole or deductible applies to all medications)
- Step 2: Determine if coverage of medication can be resolved with insurer
  - Appeal for coverage: prescription vs. major medical
  - Re-tier
  - Formulary exception

Pharmacist role in overcoming obstacles with oral chemotherapy (2)

- Step 3: Determine available assistance for the patient
  - Manufacturer copay cards
    - Non-Medicare, Federal, certain state plans
  - Manufacturer websites and reimbursement specialist
  - Non-Profit co-pay assistance foundations
    - Disease specific
    - Higher income thresholds
  - Manufacturer Patient Assistance Programs
    - Medication specific
    - Denial needed from disease based assistance

Considerations in planning for a new oncology agent release

Meet with the pharmaceutical company representative
- Coverage resources, Patient Assistance Program forms
- Disease-based assistance, discount cards

Gather information from clinics
- Patient lists, prescriber
- Dosage information

Contact patients
- Pharmacy cards, demographics
- Specialty pharmacy, income (if needed)

Who in your institution can manage?

- Who is going to own this process?
- What type of resources do you have available?
- Do you need a structured program?

Medication Assistance Program Objectives

- Channel medication benefits to patient and save time for prescribers
- Avoid readmissions and ED visits
- Provide a long-term solution for patient medication needs
- Promote medication adherence
Why Create a Program?

• Improve medication access and adherence
• Improve continuity of care
• Improve patient’s quality of life
• Increase physician and staff satisfaction
• Cost avoidance
• Decrease dollars for charity care write-offs
• Investment in long term solutions
• Involvement of medication access in the formulary process
• Support of patient advocacy on a state and national level

Oral chemotherapy coverage/cost concerns

• Oral chemotherapy parity legislation ensures equal coverage for oral and intravenous chemotherapy drugs
• Access to oral anti-cancer medications is and will continue to be a growing problem in the cancer community until insurance benefit design is modernized to keep pace with medical innovation

State Oral Parity Legislative Update

Oral chemotherapy access/parity legislative landscape – May 2012

Cancer Drug Coverage Parity Act (H.R. 2746)

• Amends the Employee Retirement Income Security Act, Public Health Service Act, and Internal Revenue Code
• Requires health insurance and group plans to cover oral anticancer drugs at equitable rate to intravenous drugs
  – Does not mandate chemotherapy coverage

Oral Chemotherapy-Patient Education

Robert Mancini, PharmD., BCOP
Oral Chemotherapy, Infusion and Supportive Care
PGY2 Oncology Residency Director
St. Luke’s Mountain States Tumor Institute
Boise, ID

Objective

• Describe patient education issues that should be discussed with patients receiving oral oncology agents.
Food Effect

• What are the consequences of food?
  – High-fat meal increases exposure: nilotinib, abiraterone
  – High-fat meal decreases exposure: eltrombopag

• Considerations for food effect
  – Combination drugs given with different instructions in regards to meals
    • Lapatinib, ceftarabine
    • Abiraterone, prednisone
  – Definition of high-fat meal vs. other meals
  – Fasted state difficult with multiple daily dosing
  – Clinical study completed without knowing food effect

See approved labeling at Drugs@FDA

Examples of Drug-Interactions

<table>
<thead>
<tr>
<th>Oral Oncologic Drug Interactions</th>
<th>Food Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abiraterone (CYP3A substrates &amp; CYP3A inhibitors)</td>
<td>Nilotinib (CYP3A inhibitor)</td>
</tr>
<tr>
<td>Lapatinib (ERBB2/ERBB3 inhibitors)</td>
<td>Eltrombopag (CYP3A inhibitor)</td>
</tr>
<tr>
<td>Capecitabine (Phenytoin, warfarin)</td>
<td>Prednisone</td>
</tr>
<tr>
<td>Dasatinib (CYP3A substrate)</td>
<td>Must be taken on an empty stomach, high-fat meal can increase exposure.</td>
</tr>
<tr>
<td>Erlotinib (Warfarin, Acid Suppressors, CYP3A4 substrates)</td>
<td>Must be taken on an empty stomach to avoid polyvalent cations.</td>
</tr>
<tr>
<td>Imatinib (Potent inhibitor of CYP3A4, CYP2C19, CYP2D6)</td>
<td>Must be administered with food.</td>
</tr>
<tr>
<td>Lapatinib (Substrate of CYP3A4)</td>
<td>Must be taken on an empty stomach.</td>
</tr>
<tr>
<td>Nilotinib (Substrate of CYP3A4)</td>
<td>Must be taken on an empty stomach.</td>
</tr>
<tr>
<td>Sorafenib (Substrate for CYP3A4, inhibitor of CYP2C9)</td>
<td>Must be taken on an empty stomach.</td>
</tr>
<tr>
<td>Temozolomide (Valproic acid can increase systemic levels)</td>
<td>Must be administered on empty stomach or at bedtime.</td>
</tr>
</tbody>
</table>

See approved labeling at Drugs@FDA

Medco Study

• Headline – "Medco Study Finds Many Patients on Newer Oncology Treatments Are at Risk for Drug Interactions"*
  – Reviewed pharmacy claims of ~11,600 patients taking oral kinase inhibitors: dasatinib, erlotinib, everolimus, imatinib, lapatinib, nilotinib, pazopanib, sorafenib, and sunitinib
  – Evaluated the number of patients taking at least one other drug that had the potential to cause a drug interaction
  – Found 23% to 74% of patients taking these drugs were also taking a drug that had the potential to reduce the effectiveness of the cancer treatment or increase its toxicity

Presented at the Annual Meeting of the ASCPT in 2012

QOPI Certification for Oral Oncology

• Quality Oncology Practice Initiative (ASCO)
  • Tools, standards & certification for quality and performance improvement
• Various Patient Education Parameters
  • Safe Handling, Storage & Disposal
  • Indication, Schedule & Start Date
  • Missed doses
  • Food & Drug Interactions
  • Potential Side-Effects & Toxicity (and self-management techniques)
  • How/When to contact clinic
  • Monitoring
    • Side-effects & management
    • Adherence issues

http://qopi.asco.org/

QOPI Certification for Oral Oncology

Model Practices in Oncology Pharmacy Oral Anticancer Drugs

• What are the characteristics of a model oncology pharmacy practice?
  • Collaborative Practice Agreement?
  • Board Certification?
  • Goal-Oriented?
Analysis of Collaborative Practice Protocols

"Participation in medication management, disease management, and collaborative practice allows pharmacists to be active members of a multidisciplinary team designed to improve patient outcomes. However, pharmacists cannot fulfill these roles if they do not know or understand what is defined as acceptable and legal according to the boards of pharmacy in the states in which they are registered."

Alicia McKnight  JAPhA 2009;  Jul.Aug 49.pg 555

States with Collaborative Practice Provisions

1. States requiring advanced educational requirements
   - Educational training or other credentialing:
     - Alaska
     - Georgia
     - North Dakota
     - Arkansas
     - Iowa
     - Rhode Island
     - California
     - New Mexico
     - West Virginia
     - Colorado
     - North Carolina
     - Ohio
     - Kansas
     - North Dakota

Figure 3: States with provisions for collaborative practice

44 states currently have Collaborative Practice Agreements in Law

Roles of Ambulatory Care Oncology Pharmacy

Published Literature

- Valgus J. PharmD BCOP, , Sandra Jarr, RN, MSN, Robert Schwartz, MA, Michelle Rice, RN, MSN, and Stephen A. Bernard, MD. Pharmacist-Led, Interdisciplinary Model for Delivery of Supportive Care in the Ambulatory Cancer Clinic Setting. J Oncol Pract. NOVEMBER 2010 • jop.ascopubs.org

Published Literature (Cont.)


Takeaways

Goals Related to Oral Anticancer Drug Management

- Adherence to Oral Agents
- Eliminate Medication Errors
  - Drug Dispensing
  - Drug Interactions
  - Drug Monitoring
  - Drug Prescribing
- Improve Drug Therapy Outcomes
  - Identified as a vital member of the health care team
- Involvement by Oncology Pharmacists in the care of patients—the Affordable Care Act will have abundant opportunities

Questions for the Panel