Challenges in Pulmonary and Critical Care

Alpha-1 Antitrypsin Deficiency: New Horizons
Final Live Outcome Report
Prepared For CSL Behring.: Grant ID #: 19-20.016
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Persistent Educational Gaps

- Though improvements were observed, learners demonstrated score slippage on the PCA indicating persistent gaps in the several areas including:
  - Pathophysiology of AAT Deficiency
  - Genetic phenotyping in AATD and its impact on risk for COPD
  - AATD screening strategies
  - Laboratory evaluation for AATD

The post-test scores, and self reported confidence regarding the management of patients with Alpha-1 Antitrypsin Deficiency, signifies a clear gap in knowledge and an unmet need among clinicians. It continues to be an important area for future educational programs.

*These numbers represent the total number of attendees, irrespective of assessment participation.
Learning Objectives

1. Discuss the pathophysiology of AAT deficiency (AATD) and its impact on chronic obstructive pulmonary disease (COPD) risk

2. Interpret the clinical significance of laboratory test results for AATD

3. Discuss treatment options for AATD incorporating the latest guideline recommendations

4. Discuss strategies to enhance detection and treatment of AATD in clinical practice
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- Shire
Consistent with the policies of the ACCME, NACE evaluates the effectiveness of all CME activities using a systematic process based on Moore’s model. This outcome study reaches Level 5.

Level 1: Participation and Demographics
Level 1: Participation

917 total attendees
On site: 97 attendees
National online simulcast: 820 attendees

November 23, 2019 Coral Springs, FL

90% Provide direct patient care
Level 1: Demographics and Patient Reach

### Specialty

- Pulmonology: 4%
- Internal Medicine/Primary Care: 56%
- Cardiology: 6%
- Hospitalist: 3%
- Emergency Medicine: 4%
- Other: 26%

### Profession

- MD: 17%
- DO: 2%
- NP: 59%
- PA: 12%
- RN: 7%
- Other: 3%

### Patients seen each week, in any clinical setting:

- >75: 23%
- 51-75: 20%
- 25-50: 27%
- <25: 30%

Patient Care Focus: 90%

### Years in Practice

- <5: 26%
- 5-10: 17%
- 11-20: 21%
- >20: 36%
Level 2-5:
Outcomes Metrics
Level 2: Satisfaction

- 88% rated the activity as excellent
- 89% indicated the activity improved their knowledge
- 88% stated that they learned new and useful strategies for patient care
- 91% said they would implement new strategies that they learned
- 98% said the program was fair-balanced and unbiased
Confidence Assessment

Please rate your confidence in your ability to integrate the assessment and management of AATD into the care of patients with COPD:
(Learning Objectives 1, 2, 3, 4)

N= 316  PCA: 161
In patients with AAT deficiency, which of the following mechanisms contributes to breakdown of lung tissue?

(Learning Objective 1)

Knowledge Assessment

Pre: 26%  Post: 25%  PCA: 8%

Insufficient neutrophil elastase levels in lung tissues

Unchecked neutrophil elastase activity in lung tissues

Reduced recruitment of white blood cells to lung tissues

Enhanced cytokine production by AAT-deficient white blood cells

Pre to Post Change: 60%

Pre to PCA Change: 32%

N=246  Post: 249  PCA: 161
On genetic testing for AAT deficiency, which of the following genotypes is associated with greatest risk for development of COPD?

(Learning Objectives 1, 2)
According to current guidelines, which of the following groups should be screened for AAT deficiency?

(Learning Objective 4)
A 62-y/o woman presents with progressive dyspnea and productive cough. She has no smoking history. Workup identifies FEV$_1$/FVC of 0.50 and FEV$_1$ 40% predicted. Chest X-ray shows mild emphysema with apical predominance. Other findings are WNL.

Based on this information, what might be an appropriate next step?

(Learning Objective 4)
Please select the specific areas of skills, or practice behaviors, you have improved regarding the screening, diagnosis and treatment of Alpha-1 Antitrypsin Deficiency since this CME activity. (Select all that apply.)

N=117

- Timely referral: 37%
- Patient education: 30%
- Patient engagement: 23%
- Disease state awareness: 56%
- Non-pharmacotherapy: 17%
What specific barriers have you encountered that may have prevented you from successfully implementing screening, diagnosis and treatment of Alpha-1 Antitrypsin Deficiency since this CME activity? (Select all that apply)

N=117

- Insurance/Financial issues: 40%
- Medication costs: 37%
- Time constraints: 14%
- Patient adherence/compliance: 30%
- Lack of knowledge: 42%
Participant Educational Gains

- 60% increased recognition of the mechanism by which AATD contributes to lung tissue breakdown
- 136% increased awareness of the AATD genotype most associated with an increased risk of COPD
- 69% increased recognition of the need to screen all patients with COPD for AAT Deficiency
- 43% increased competence in ordering appropriate quantitative and qualitative AAT tests for a patient with symptomatic COPD, in addition to appropriate bronchodilator therapy
Persistent Educational Gaps After 4 Weeks

- Pathophysiology of AAT Deficiency
- Genetic phenotyping in AATD and its impact on risk for COPD
- AATD screening strategies
- Laboratory evaluation for AATD
Key Take-home Points

Significantly increased confidence in the ability to integrate the assessment and management of AATD into the care of patients with COPD.

After 4 weeks, participants reported the following barriers regarding the screening, diagnosis and treatment of AATD: 42% lack of knowledge, 37% medication costs, and 40% insurance/financial issues.

90% of learners are engaged in direct patient care and 91% reported that they will implement new strategies they learned.

After 4 weeks, participants reported the following improved skills regarding the screening, diagnosis and treatment of AATD: 56% disease state awareness, 37% timely referral, and 30% patient education.