Impact of a Smart Set and Best Practice Alert on Management of Exocrine Pancreatic Insufficiency and Related Complications

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BACKGROUND

- 40-50% of chronic pancreatitis patients + 70-80% of pancreatic cancer and pancreatic resection patients develop EPI
- Despite how widespread EPI is in these patient populations only 1/3rd of patients are prescribed PERT and often at inadequate doses
- Lack of treatment and undertreatment of EPI has been shown to be associated with increased morbidity and mortality
- A smart set with best practice alert (BPA) were developed to address these deficiencies in treatment of EPI
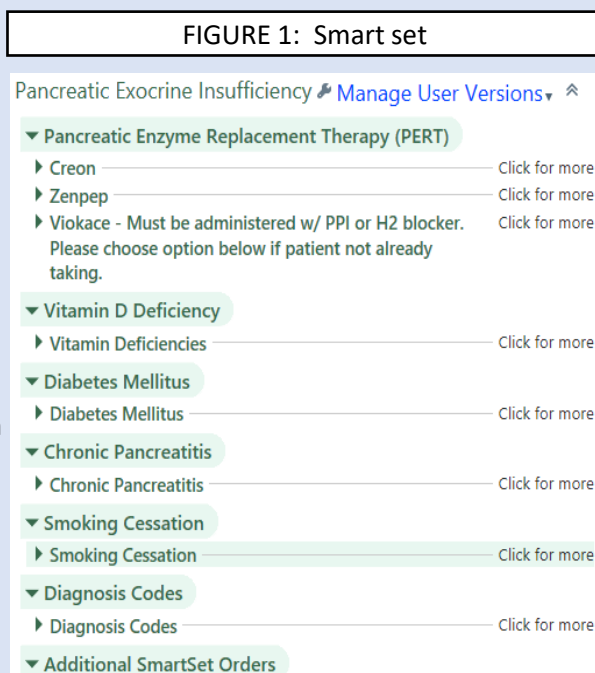
FIGURE 1: Smart set

CONCLUSIONS

1 Smart set and BPA were associated with an increase in the proportion of patients on appropriate minimum therapeutic dose of PERT

2 This intervention was not effective at increasing proportion of patients on PERT likely due to limitation of BPA triggers

RESULTS

TABLE 1: Characteristics prior to and after smart set & BPA for all patients

Characteristic	Pre order set total (n=1,464)	Post order set total (n=679)	Odds ratio	P Value
Prescribed Enzyme (%)	837 (57.2)	387 (56.8)		0.925
Min Therapeutic Dose (%)	518/837 (61.9)	282/387 (72.9)	1.64	<0.001*
Vit D checked (%)	453 (30.9)	326 (48.0)	2.06	<0.001*
Vit D supplementation (%)	373 (25.5)	225 (33.1)	1.45	<0.001*
A1c checked (%)	801 (54.7)	422 (62.1)	1.36	0.001*
DEXA ordered (%)	156 (10)	122 (18)	1.96	<0.001*
Bone disease status known (%)	193 (13.2)	157 (23.1)	1.99	<0.001*
Pancreatic elastase done (%)	299 (20.4)	203 (29.9)	1.67	<0.001*

TABLE 2: Characteristics prior to and after smart set and BPA for CP

Characteristic	Pre order set total (n=548)	Post order set total (n=343)	Odds ratio	P Value
Prescribed Enzyme (%)	372 (67.9)	206 (60.1)	0.71	0.017*
Min Therapeutic Dose (%)	212/372 (57.0)	148/206 (72.2)	1.96	<0.001*
Vit D checked (%)	246 (44.9)	203 (59.2)	1.78	<0.001*
Vit D supplementation (%)	157 (28.6)	103 (30.0)		0.659
A1c checked (%)	376 (68.6)	235 (68.5)		0.975
DEXA ordered (%)	80 (14.6)	71 (20.7)	1.53	0.018*
Bone disease status known (%)	106 (19.3)	84 (24.5)	1.35	0.068
Pancreatic elastase done (%)	174 (31.8)	146 (42.6)	1.59	0.001*

TABLE 3: Characteristics prior to and after smart and BPA for Cancer and post surgery

Characteristic	Pre order set total (n=826)	Post order set total (n=319)	Odds ratio	P Value
Prescribed Enzyme (%)	401 (48.5)	171 (53.6)		0.125
Min Therapeutic Dose (%)	266/401 (66.3)	129/171 (74.1)	1.46	0.064
Vit D checked (%)	156 (18.9)	109 (34.2)	2.23	<0.001*
Vit D supplementation (%)	182 (22.0)	107 (33.5)	1.79	<0.001*
A1c checked (%)	369 (44.7)	170 (53.3)	1.41	0.009*
DEXA ordered (%)	45 (5.4)	38 (11.9)	2.35	<0.001*
Bone disease status known (%)	63 (7.6)	62 (19.4)	2.92	<0.001*
Pancreatic elastase done (%)	61 (7.4)	43 (13.5)	1.954	0.001*

METHODS

Design
Retrospective

Time Frame
2/2018-2/2021

Inclusion Criteria
1) ICD-10 diagnosis code for chronic pancreatitis, Pancreatic cancer or pancreatic resection
2) >18 years of age

Exclusion Criteria
1) <18 years of age
2) Presence of Cystic Fibrosis

Intervention
Order Set and BPA implemented in EMR on 2/2020

BPA Triggers
1) Provider ordering PERT
2) Patient already on PERT

Minimum therapeutic dose of enzyme
40,000u lipase with every meal

Data Collection
Patients pulled from MDR via ICD-10 diagnosis codes

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