Crushing and Splitting DAAs for HCV Treatment: A Case Series

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BACKGROUND

- Direct Acting Antivirals (DAAs) can produce sustained virologic response (SVR) rates >90%.
- There is limited data regarding the use of DAAs in patients unable to swallow tablets.
- DAA tablet manipulation may impact drug absorption and treatment outcome.

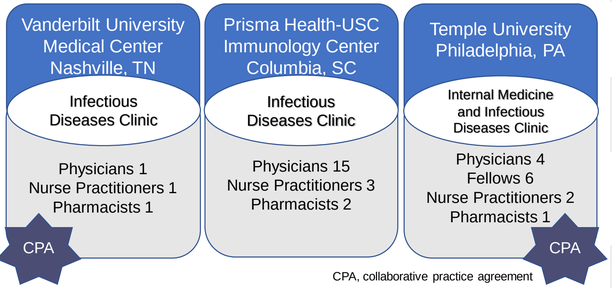
OBJECTIVE

- Describe the safety and effectiveness outcomes of real-world cases requiring DAA tablet manipulation.

METHOD

Design	Multi-site, retrospective case series
Sample	Adult patients receiving DAA therapy with tablet manipulation at three academic health-systems
Study period	January 2013 to December 2019
Outcomes	Achievement of SVR at least 12 weeks after therapy completion, reasons for tablet manipulation, adverse effects and adherence

Figure 1: Practice Sites



CPA, collaborative practice agreement

REFERENCES

1. World Health Organization. Hepatitis C fact sheet. 2019. https://www.who.int/news-room/fact-sheets/detail/hepatitis-c. Accessed October 6, 2020.
2. Oberoi RK, Zhao W, Sidhu DS, et al. A phase 1 study to evaluate the effect of crushing, cutting into half, or grinding of glecaprevir/pibrentasvir tablets on exposures in healthy subjects. J Pharm Sci. 2018;107:1724–30.

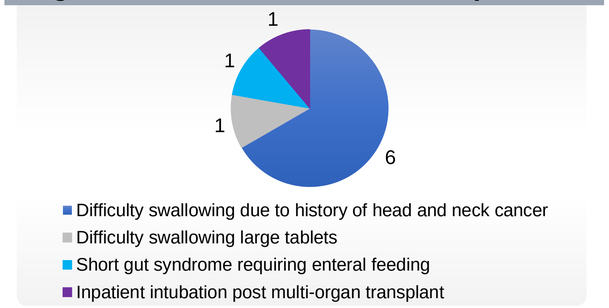
RESULTS

Table 1: Summary of Cases of HCV Treatment Requiring DAA Manipulation

Gender	Race	Age	Pertinent Medical History	Non-DAA RX Burden	GT	Fibrosis Stage	Previous HCV Treatment	Drug Regimen	Potential Drug Interactions with DAA	Method of Administration	Patient-Reported Adherence	Treatment Outcome
Male	White	67	NAT+ heart/kidney transplant, HTN, HLD, DM, GI bleeds	28	1a	N/A	Naïve	GLE/PIB	atorvastatin, quetiapine, tacrolimus, omeprazole	Crushed and taken by PEG tube	No missed doses	SVR12 achieved
Male	Black	71	Short gut syndrome, ischemic colitis requiring colectomy	8	1a	F2-F3	Naïve	LDV/SOF	N/A	Halved and taken by mouth	No missed doses	SVR12 achieved
Male	Black	61	H/o squamous cell carcinoma of larynx, HTN, DM, HLD	7	1a	F0	Experienced (IFN)	LDV/SOF	magnesium	Crushed and taken with small amount of orange juice	No missed doses	Lost to follow up
Male	Black	54	H/o laryngeal cancer	3	1a	F0-F1	Naïve	LDV/SOF	N/A	Crushed and taken by mouth	Several missed doses	Lost to follow up
Male	White	60	H/o carcinoma of tonsil, HCC, GERD, HTN	8	3	F2-F3	Naïve	SOF/VEL	N/A	Crushed and taken by PEG tube	1 missed dose	SVR12 achieved
Male	Black	73	H/o malignant neoplasm of supraglottis	3	3	F2	Naïve	SOF/VEL	N/A	Crushed and taken by mouth	No missed doses	SVR12 achieved
Female	White	41	Scoliosis w/Harrington rod, BMI 17.8	0	3	F0	Naïve	SOF/VEL	N/A	Halved and taken on gelatin	No missed doses	SVR12 achieved
Female	White	60	H/o squamous cell carcinoma of larynx, GERD HTN, CAD	11	1a	F0	Experienced (SMV + SOF)	SOF/VEL	N/A	Crushed and taken sprinkled on applesauce	31 missed doses	SVR12 achieved
Female	White	50	Decompensated cirrhosis, h/o submandibular malignant mass	12	3	F4	Experienced (IFN)	SOF/VEL + RBV	calcium carbonate, ranitidine	Quartered and taken by mouth	4 missed doses	Lost to follow up

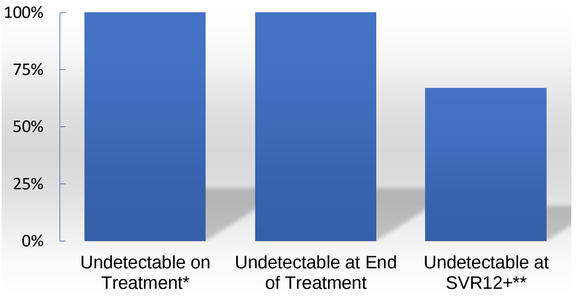
GT, genotype; IFN, interferon; SMV, simeprevir; SOF, sofosbuvir; LDV/SOF, ledipasvir/sofosbuvir; SOF/VEL, sofosbuvir/velpatasvir; GLE/PIB, glecaprevir/pibrentasvir; RBV, ribavirin; PEG, percutaneous endoscopic gastrostomy; NAT, nucleic acid testing; HTN, hypertension; HLD, hyperlipidemia; DM, diabetes mellitus; GI, gastrointestinal; H/o, history of; HCC, hepatocellular carcinoma; GERD, gastroesophageal reflux; BMI, body mass index; CAD, coronary artery disease; RX, prescription

Figure 2: Reasons for Tablet Manipulation



- No patients experienced severe adverse effects.
- Unpleasant taste was reported.

Figure 3: HCV RNA Lab Monitoring



*Defined as reaching an undetectable HCV RNA while on treatment
**3 patients lost to follow up after end of treatment

CONCLUSION

- All patients with available data achieved an SVR12.
- This case series provides evidence for safety and effectiveness with HCV DAA tablet manipulation.

DISCLOSURES

- David E. Koren is an independent consultant for Gilead and AbbVie.
- Other authors report no disclosures or conflicts of interests.

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