THERAPEUTIC EFFECTS AND ALPHA-AMYLASE RESISTANCE OF A NEW MIXED STARCH AND XANTHAN GUM THICKENER IN FOUR DIFFERENT PHENOTYPES OF PATIENTS WITH OROPHARYNGEAL DYSPHAGIA

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INTRODUCTION

Oropharyngeal dysphagia (OD) is a prevalent condition among patient phenotypes (older, neurological, post head-neck cancer-HNC) and leads to severe complications. There is evidence that thickened fluids reduce aspirations; however, the clinical efficacy of thickeners can be affected by salivary α-amylase and vary according to OD patient phenotype.

AIM

To assess the therapeutic effect and α-amylase resistance of a new thickener composed of modified starch, xanthan gum, maltodextrin and modified cellulose (Fresubin Clear Thicken®® [FCT], Fresenius Kabi) on 4 phenotypes of OD patients.

1. Demography and VFS characteristics of the study population:

![Table 1: Demographic characteristics of the study population](image)

2. Therapeutic effect: FCT had a strong viscosity-dependent therapeutic effect on safety of swallow in all groups, with a maximal effect at spoon thick, and did not increase pharyngeal residue at any viscosity (Figure 4 and 5). HNC cancer patients had the poorest safety and efficacy results (Figure 4 and 5).

![Table 2: Videofluoroscopy signs of impaired efficacy and safety of swallow in the study groups](image)

3. Mechanism of action: LVC was reduced with 1500mPa.s and 2000mPa.s viscosities. The rest of OSR parameters were not affected by FCT (Table 3).

![Table 3: Effect of FCT on oropharyngeal residue (OSR) in at study patients](image)

4. Amylase effect: The viscosity of FCT was not affected by salivary α-amylase of study patients at any of the viscosity levels tested compared with control samples not incubated with saliva (Figure 7). We also found no differences in patient phenotype groups.

CONCLUSIONS

- Increasing bolus viscosity with Fresubin Clear® has a strong viscosity-dependent therapeutic effect by improving safety of swallow with maximal effect at spoon-thick viscosity (2000mPa.s) and without increasing pharyngeal residue.
- The therapeutic effect of FCT is phenotype-dependent, having the strongest therapeutic effect in older patients, Parkinson and stroke and the weakest in HNC.
- Fresubin Clear® is resistant to salivary α-amylase.