Xylitol appeared to prevent *Streptococcus mitis/oralis* dominance in the oral microbiome (Figure 2). Additionally, the use of Xylitol may prevent BSI from *Streptococcus mitis/oralis* (BSI events n = 0/5) compared to standard oral care (BSI events n = 2/8) within the first 8 days post-transplantation. Interestingly, *Streptococcus mitis/oralis* comprised 70% of the oral microbiome in one child who subsequently developed a *Streptococcus mitis/oralis* BSI (Figure 3).

The expected study completion date is December 2017. **Conclusions:** The addition of Xylitol to oral standard care appears to decrease dental plaque, gingivitis and oral ulcerations in patients undergoing HSCT. Xylitol may also impede *Streptococcus mitis/oralis* dominance in the oral microbiome with potential reduction in blood stream infections.

**Figure 2.** Relative *Streptococcus mitis/oralis* abundance in oral microbiome. (A) Standard of care group (SOC) and Xylitol group post-transplant (B) Xylitol group only at baseline and post-transplant and (C) Standard of care group only at baseline and post-transplant.

**Results:** In the MAC group, 13/15 patients engrafted (87%), 2 patients had primary GF and no secondary GF was observed. Of the 12 patients who received RIC, all engrafted, but 5 patients (42%) experienced secondary GF (42%) despite a total of 17 donor lymphocyte infusions (DLI) and 2 stem-cell boosts. Mixed donor chimerism was more frequent in the RIC compared to the MAC group (83% versus 7% respectively, *P* < .001). Three patients relapsed in the RIC group, none in the MAC group. There was no significant difference in incidence of graft versus host disease (GVHD) observed. Transplant related mortality (TRM) at day 100 was lower in the RIC group compared to the MAC group (0% versus 20%). Acute complications were significantly higher in patients receiving MAC compared to RIC including sinusoidal obstruction syndrome (47% versus 0%, *P* < .01) and ICU admissions (47% versus 8%, *P* = .04). Estimated 2 year EFS and OS was comparable between patients receiving RIC and MAC regimens (53% versus 60%, *P* = .80 and 58% versus 67%, *P* = .86 respectively).

**Conclusion:** Comparing MAC and RIC regimens for patients with HLH, we found significantly higher TRM and acute toxicity in patients receiving the MAC regimen. On the other hand, patients receiving RIC had a higher incidence of mixed donor chimerism, relapse and secondary GF. Overall, we observed no difference in EFS or OS between RIC or MAC regimens. Further research is needed to determine the optimal intensity of the conditioning regimen for this group of transplant patients.