Background and importance  Pneumatic delivery is not recommended for medicinal products that could undergo physical alteration of the active ingredient, such as protein denaturation (Peak, 2003). A review of the literature reveals that the solution air-liquid interface and number of travel cycles can be risk determining factors for compounded stability of monoclonal antibodies after pneumatic delivery (Vieillard et al, 2012; Vieillard et al, 2013; Vieillard et al, 2014). In our hospital, all compounded monoclonal antibodies are delivered via a pneumatic system to the oncologic day hospital unit from the pharmacy compounding department.

Aim and objectives  To investigate the stability of nivolumab compounded solution after pneumatic delivery, and the effect of residual air inside the infusion bag.

Material and methods  The following nivolumab samples, diluted to 2.4 mg/mL in a prefilled 0.9% sodium chloride polyethylene infusion bag, were prepared: sample nivolumab, not undergoing pneumatic delivery, sample PNA, with residual air, and sample PN, without residual air, both undergoing single travel inside the pneumatic delivery system. On the day of preparation, all samples were analysed for pH, osmolality, turbidimetry, dynamic light scattering (DLS), size exclusion chromatography-high performance liquid chromatography (SEC-HPLC), and nuclear magnetic resonance (NMR).

Results  All samples were clear, without particulate or precipitates, and turbidity free at 350 nm. pH values shifted from 5.77 to 5.92. Osmolality values ranged from 286 and 296 mOsm/kg. DLS revealed a monodisperse peak at about 11 nm, with similar shape and intensity. SEC-HPLC did not reveal any peak retention time variations, and NMR did not reveal any modifications regarding peak shape or intensity.

Conclusion and relevance  No difference in physical or chemical stability was found between compounded nivolumab solutions not undergoing and undergoing single travel inside the pneumatic system. The presence of the air-liquid interface inside the solution bag was not risk determining for solution stability. The pneumatic delivery system at our hospital can be used for delivery of compounded nivolumab solution to the oncologic day hospital.

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Background and importance  Mitomycin C is used in different regimens for the treatment of bladder, anus and lung cancer. According to the data sheet, reconstitution of the vial should be carried out with water for preparation of injectables or with 20% dextrose. Despite this, sodium chloride solutions are commonly used for its administration. However, it is known that the stability of mitomycin C molecule is affected by the pH of the preparation as degradation increases with pH values <7. Sodium chloride solutions have an approximate...