



# HYPOFRACTIONATED RADIOTHERAPY and TARGETED THERAPY : SURVEY of the INTERREGIONAL AIRO GROUP "EMILIA ROMAGNA-MARCHE"



Iprofrazionamento e farmaci biologici: risultati della survey del gruppo interregionale AIRO Emilia Romagna-Marche

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**Aims:** In the past two decades, thanks to significant technological advances in radiation therapy (RT) planning and delivery, the use of hypofractionation (Hypo) has been widely explored with palliative or curative intent, as well as, the role of targeted therapies (Tp) has been increasingly studied in several cancer types. Nevertheless, only few prospective trials focused the attention on the combination of these two therapeutic options. In this scenario the Interregional AIRO Group "Emilia Romagna-Marche" proposed a brief survey to explore the Italian pattern of practice in the use of HypoRT and targeted Tp.

**Methods:** We performed an online survey addressed to all Italian RT Centers belonging to AIRO during a 15-day period; it included 15 questions with an overall estimated time for finishing the questionnaire of 10 minutes. Results were evaluated using descriptive statistics.

**Results:** 66 centers filled out the survey. 57% of all participating centers consider moderate Hypo dose/fractions > 250 cGy while 38% > 210 cGy; 40% of all participants define extreme Hypo delivering RT doses greater than 800 cGy, 31% > 500 cGy and 29% > 1000 cGy.

Participants use Hypo with curative intents in several disease presentations especially for oligometastases (82%), prostate, breast and lung cancers (79%, 77% and 70% respectively), brain tumors (67%) [figure 1].

Palliative HypoRT is delivered for multiple metastases and it is also used especially for lung cancers (83%), brain tumors (91%) and pelvic diseases (71%) [figure 2]. Italian centers use the combination with targeted Tp most frequently in oligometastatic setting (62,5%), head and neck and lung cancers (57% and 45%) or multiple metastases (40%) [figure 3].

Q5 Nel tuo Centro in quale patologia utilizzi schemi di ipofrazionamento con intento curativo

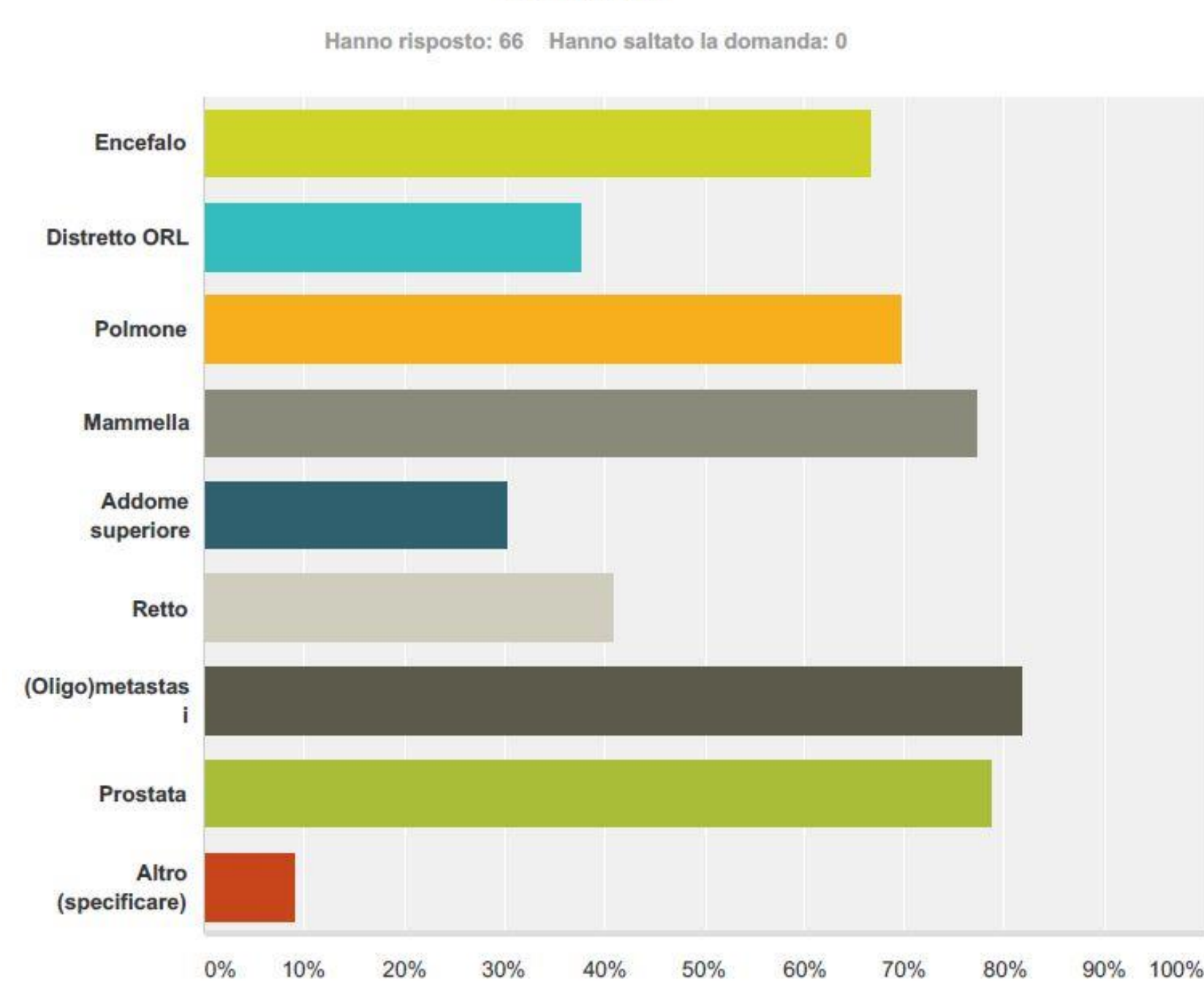


Figure 1

Q6 Nel tuo Centro in quali patologie utilizzi schemi di ipofrazionamento con intento palliativo

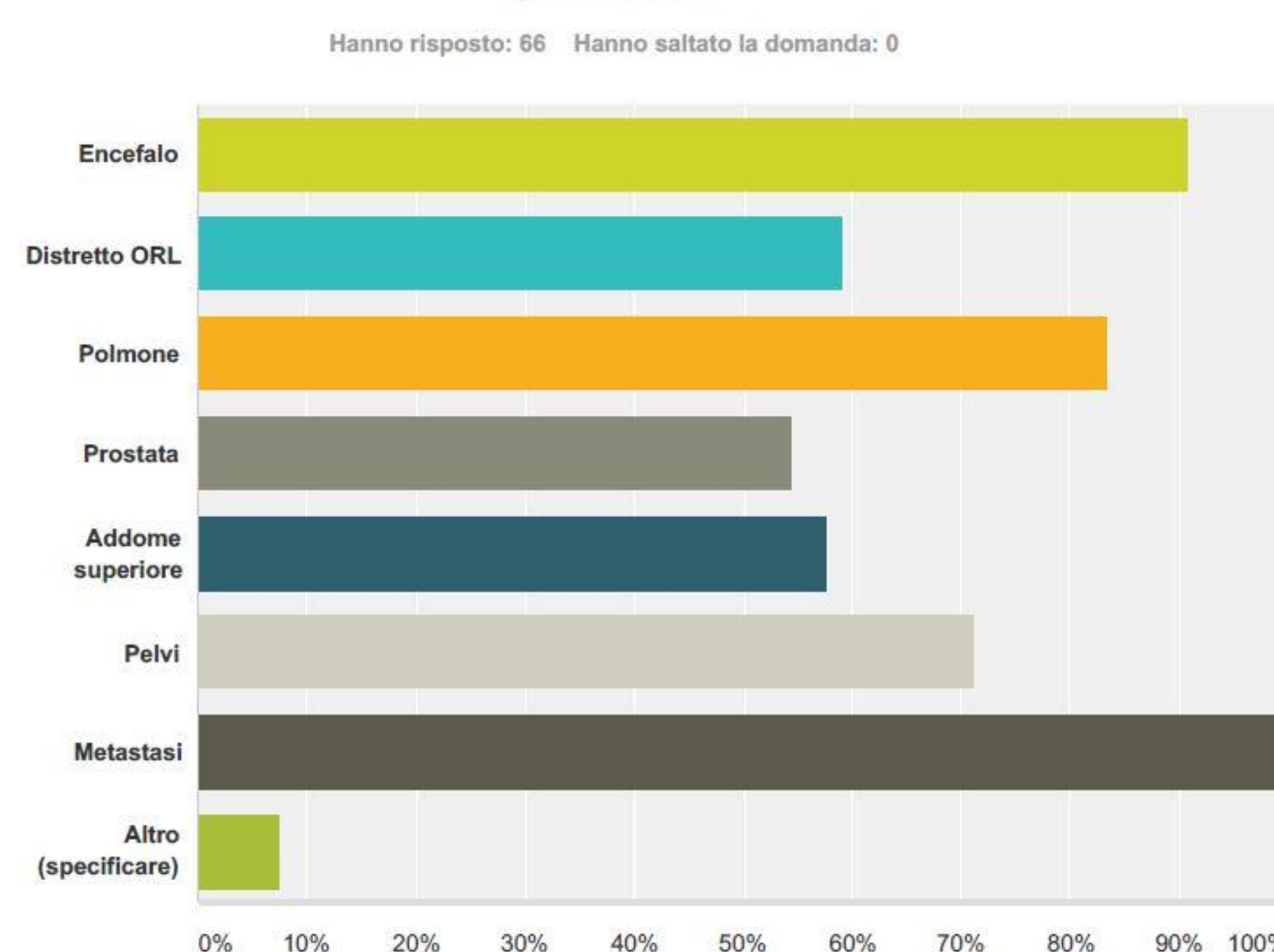


Figure 2

Q8 Nel tuo Centro in quale patologia utilizzi schemi di ipofrazionamento in associazione a farmaci biologici ?

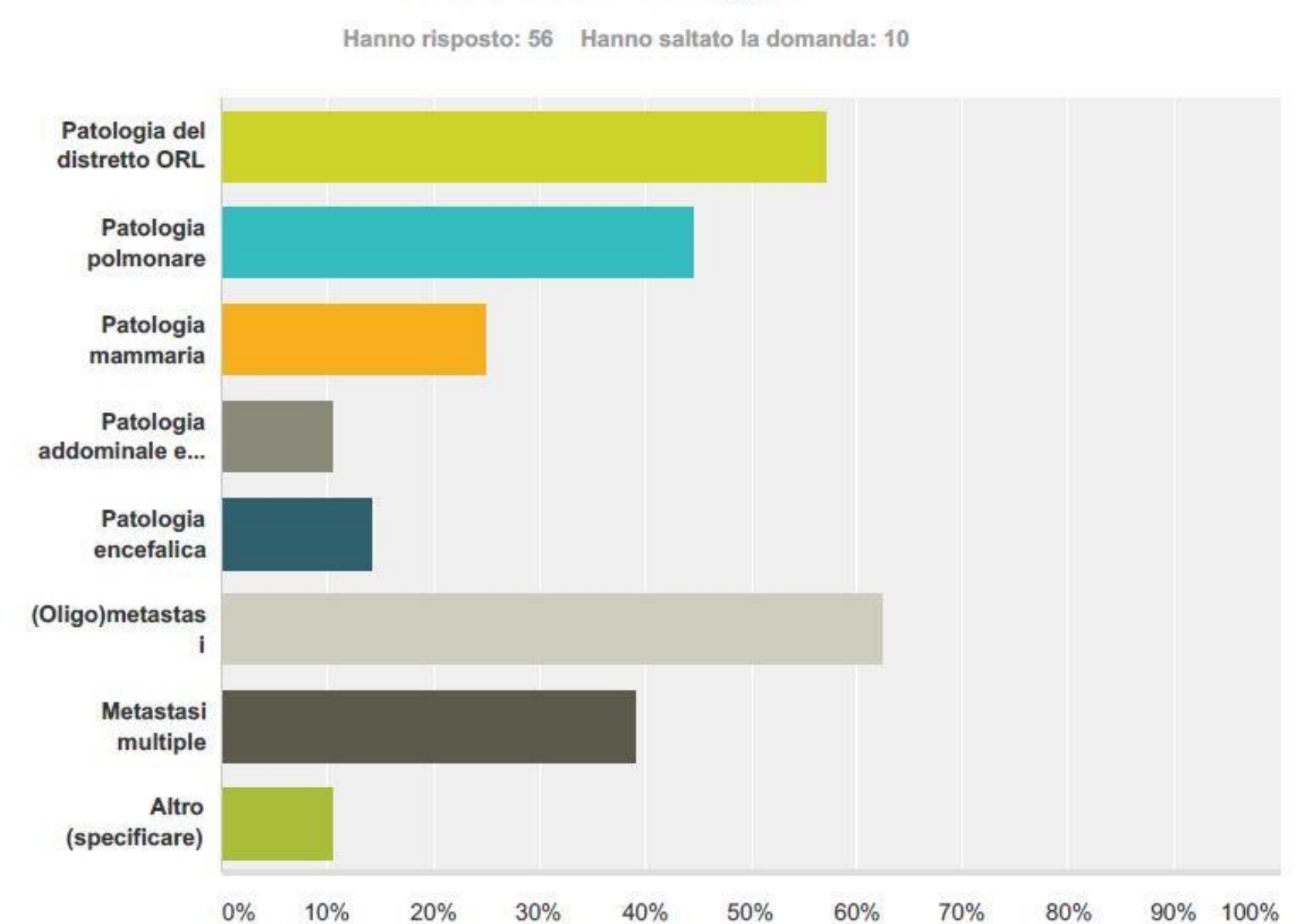


Figure 3

Among the most accepted integration, 78% of participants combine HypoRT with Cetuximab, 37% with Erlotinib or Gefitinib and 28% with Nivolumab [figure 4]. Eighty-Four percent of centers select the combined treatment modality after a multidisciplinary discussion with Oncologists and when Hypo is the treatment of choice, 91% evaluates to stop targeted Tp before starting RT [figure 5]. Among participating radiation oncologists, 42% considers as they have enough knowledge about targeted Tp, 12% even a good one but 46% reveal inadequate experience with them. For 69% participants, medical meeting for updating on targeted Tp could be very useful. Ninety-seven percent of centers are interested in participating in multicenter prospective trials on the combination of HypoRT and targeted drugs especially in oligometastatic diseases (60%), lung and head and neck cancers (58% and 37%), pelvic masses and multiple metastatic setting (28% both) [figure 6].

Q9 Quale farmaco biologico associ piu' frequentemente al trattamento radiante

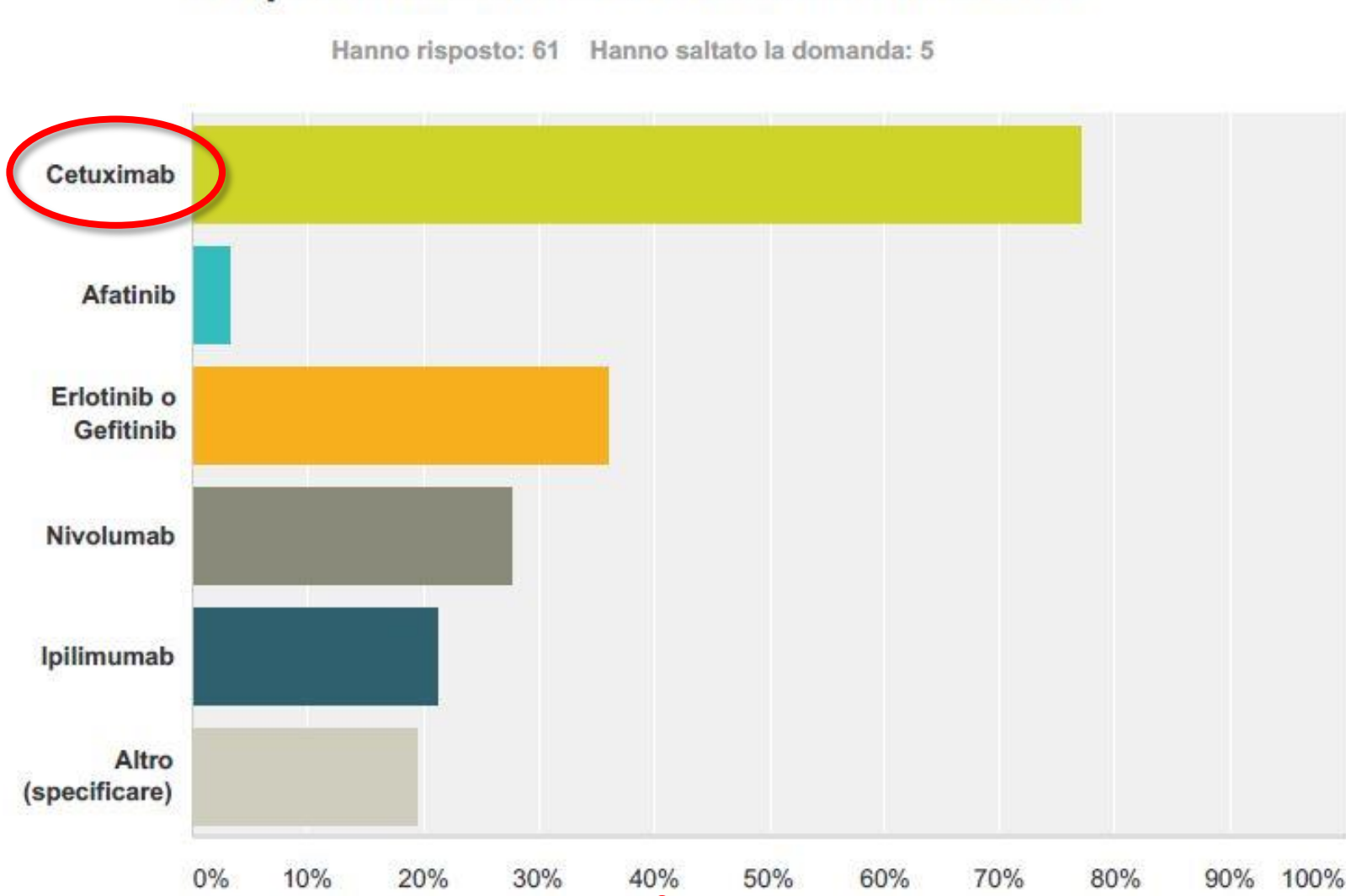


Figure 4

Q11 Nel caso in cui al momento della prescrizione di RT ipofrazionata il Paziente stia gia' assumendo un farmaco biologico come ti comporti

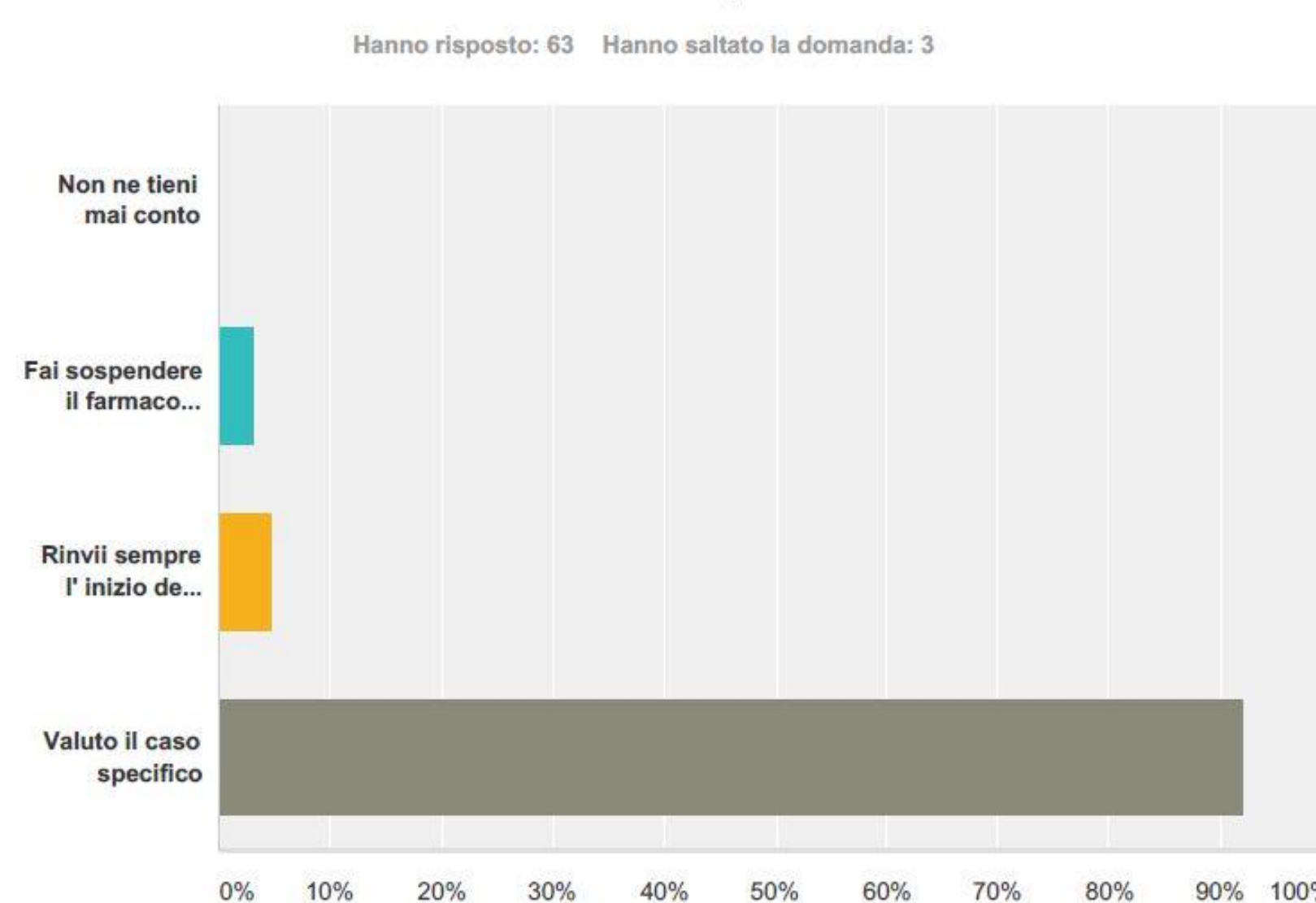


Figure 5

Q14 Saresti interessato a partecipare ad uno studio multicentrico sull' argomento ipofrazionamento e farmaci biologici ?

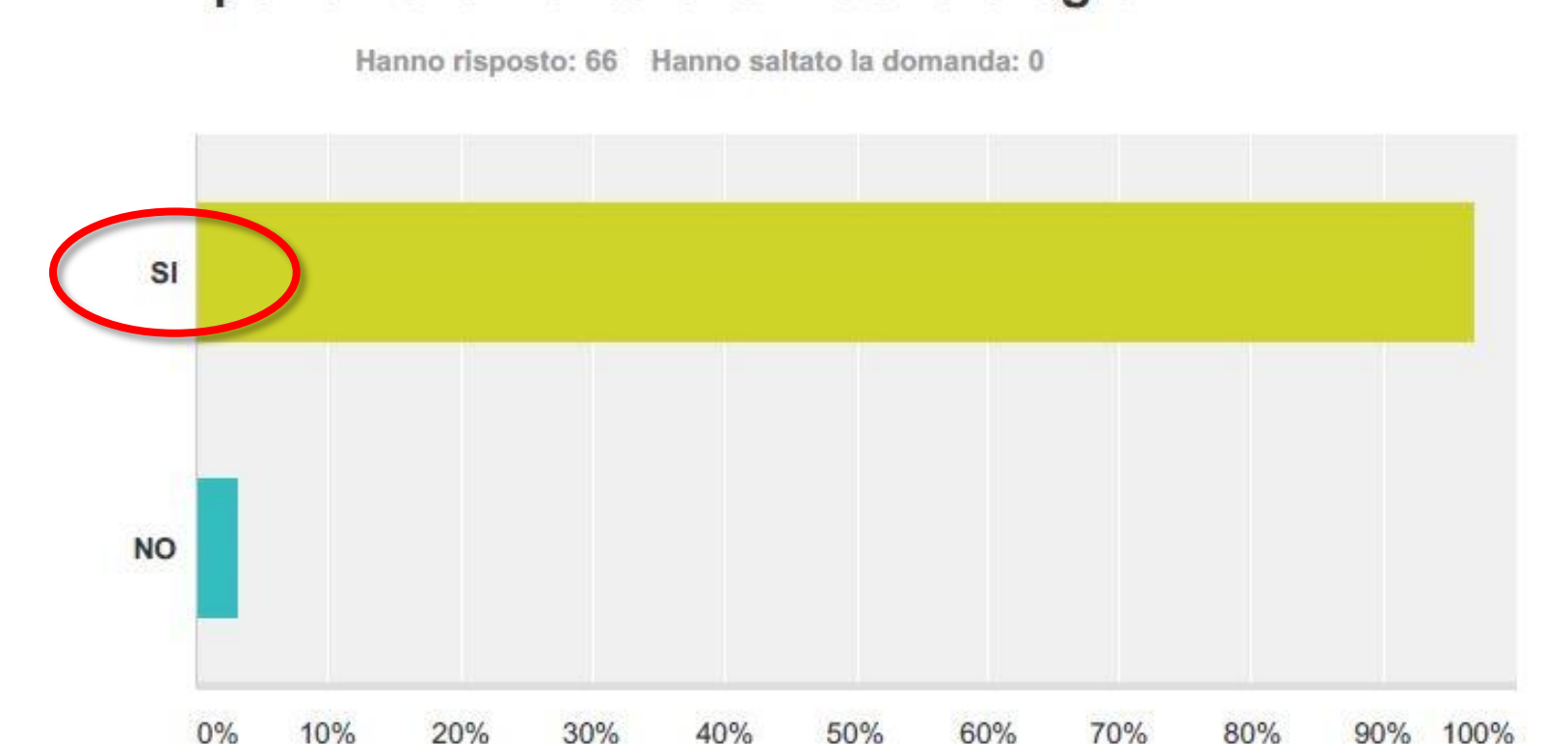


Figure 6

**Conclusions:** This survey highlights a large heterogeneity in the definition of Hypo regimens and in their use in combination with targeted Tp despite a wide use of HypoRT in many clinical settings for palliative and curative purposes. Refresher courses on targeted Tp and new prospective clinical trials are necessary for a better and safe use of the combined treatment.