

**Supplemental Table:** Cases from included studies in systematic review and two-institution series.

First Author Last Name, Year	Sex	Age at diagnosis	Otologic presentation	Isolated/primary	Association of ear and nose	Years interval if secondary	Side of ear tumor	Side of sinonasal tumor	Ear pathology (initial)	Sinonasal pathology (closest in time to ear tumor diagnosis)
Murthy, 1986 <sup>1</sup>	M	38	otorrhagia/otorrhea	secondary	metachronous	8	R	R	malignant	benign
Murthy, 1986	F	35	aural fullness	secondary	synchronous	0	R	R	benign	benign
Stone, 1987 <sup>2</sup>	M	55	otalgia, otorrhea, HL, mass	secondary	metachronous	1.5	R	R	malignant	benign
Kaddour, 1992 <sup>3</sup>	M	77	otalgia, otorrhea, mass	secondary	metachronous	9	R	R	benign	benign
Roberts, 1993 <sup>4</sup>	F	19	otalgia, HL	primary	NA	NA	L	NA	benign	NA
Seshul, 1995 <sup>5</sup>	F	31	otitis media, HL	secondary	metachronous	1	L	L	benign	benign
Bold, 1995 <sup>6</sup>	F	29	HL	primary	NA	NA	missing	NA	benign	NA
Wenig, 1996 <sup>7</sup>	F	31	otalgia, HL	primary	NA	NA	L	NA	benign	NA
Wenig, 1996	F	56	otorrhea, mass	primary	NA	NA	L	NA	benign	NA
Wenig, 1996	F	19	otitis media, otorrhea, mass	primary	NA	NA	L	NA	benign	NA
Wenig, 1996	F	57	HL	primary	NA	NA	L	NA	benign	NA
Taneja, 1997 <sup>8</sup>	M	45	HL	secondary	synchronous	0	L	L	benign	malignant
Jones, 1998 <sup>9</sup>	F	35	HL, facial paralysis	secondary	metachronous	1	L	L	malignant	benign
Vural, 1999 <sup>10</sup>	F	44	missing	secondary	metachronous	1	missing	missing	benign	benign
Chhetri, 2001 <sup>11</sup>	M	26	HL, aural fullness	primary	NA	NA	L	NA	benign	NA
De Filippis, 2002 <sup>12</sup>	M	58	HL, aural fullness	primary	NA	NA	L	NA	benign	NA
Pou, 2002 <sup>13</sup>	M	82	otorrhea, mass	secondary	metachronous	1	R	R	malignant	malignant
Pou, 2002	M	54	HL, otorrhea	secondary	metachronous	17	R	BL	malignant	malignant
Blandamura, 2003 <sup>14</sup>	M	54	missing	primary	NA	NA	missing	NA	benign	NA
Blandamura, 2003	M	58	missing	primary	NA	NA	missing	NA	benign	NA
Cahali, 2005 <sup>15</sup>	M	72	HL, otorrhea	primary	NA	NA	R	NA	benign	NA
Mazlina, 2006 <sup>16</sup>	M	54	mass	secondary	synchronous	0.4	L	L	malignant	benign

de Menezes Santos Torres, 2007 <sup>17</sup>	F	27	otorrhea, facial paralysis	primary	NA	NA	R	NA	benign	NA
Kainuma, 2009 <sup>18</sup>	M	65	otalgia, HL	secondary	metachronous	1.75	L	L	benign	benign
Acevedo-Henao, 2010 <sup>19</sup>	M	63	HL	secondary	metachronous	1	R	R	benign	benign
Lin, 2010 <sup>20</sup>	F	24	otitis media	primary	NA	NA	R	NA	malignant	NA
Ali, 2011 <sup>21</sup>	F	42	otorrhea, tinnitus, HL	primary	NA	NA	R	NA	benign	NA
Inoue, 2011 <sup>22</sup>	F	53	aural fullness	primary	NA	NA	L	NA	benign	NA
Shen, 2011 <sup>23</sup>	M	56	aural fullness	secondary	metachronous	0.5	L	L	malignant	malignant
Zhou, 2011 <sup>24</sup>	M	52	otorrhea, facial paralysis, HL	primary	NA	NA	L	NA	malignant	NA
Barbosa, 2012 <sup>25</sup>	M	48	HL, otalgia, otorrhea	secondary	metachronous	2	R	BL	benign	benign
Dingle, 2012 <sup>26</sup>	M	52	aural fullness, HL	secondary	metachronous	0.6	BL	R	benign	benign
Mitchell, 2012 <sup>27</sup>	F	69	HL	secondary	metachronous	1	R	R	malignant	malignant
Ramey, 2012 <sup>28</sup>	M	52	aural fullness, facial pain, HL	secondary	metachronous	0.6	BL	R	benign	benign
Rubin, 2012 <sup>29</sup>	M	48	missing	primary	NA	NA	L	NA	benign	NA
Kim, 2013 <sup>30</sup>	F	30	HL, otorrhea	primary	NA	NA	L	NA	benign	NA
Liu, 2013 <sup>31</sup>	F	81	mass, HL, otorrhea, pulsatile tinnitus	secondary	synchronous	0.3	R	R	malignant	benign
van der Putten, 2013 <sup>32</sup>	F	72	HL, otitis media, otorrhea	primary	NA	NA	R	NA	benign	NA
Dornhoffer, 2014 <sup>33</sup>	F	47	coalescent mastoiditis/otitis	primary	NA	NA	L	NA	benign	NA
Ulkumen, 2014 <sup>34</sup>	M	11	HL, otorrhea	primary	NA	NA	L	NA	benign	NA
Zhou, 2014 <sup>35</sup>	M	70	otorrhea, HL, otalgia	primary	NA	NA	L	NA	malignant	NA
Zhou, 2014	M	50	otorrhea, otalgia, aural fullness	primary	NA	NA	L	NA	malignant	NA
Zhou, 2014	M	29	otorrhea, HL, tinnitus	primary	NA	NA	L	NA	benign	NA
Zhou, 2014	M	60	HL, otalgia, tinnitus	primary	NA	NA	R	NA	benign	NA
Carlson, 2015 <sup>36</sup>	M	72	HL, otorrhea	secondary	metachronous	4	R	R	malignant	malignant
Carlson, 2015	M	63	HL, otorrhea	secondary	metachronous	40	L	BL	malignant	malignant

Carlson, 2015	M	58	HL, otorrhea, tinnitus, dizziness/vertigo	secondary	metachronous	10	R	R	benign	benign
Carlson, 2015	M	62	HL, aural fullness, tinnitus	secondary	metachronous	10	R	R	malignant	benign
Schaefer, 2015 <sup>37</sup>	M	46	HL, otorrhea	primary	NA	NA	R	NA	benign	NA
Coca-Pelaz, 2016 <sup>38</sup>	M	74	otitis media, facial paralysis	primary	NA	NA	L	NA	benign	NA
Nath, 2016 <sup>39</sup>	M	60	HL, otorrhea	primary	NA	NA	R	NA	malignant	NA
Barry, 2017 <sup>40</sup>	M	45	HL	secondary	synchronous	0	L	L	malignant	malignant
Haywood, 2017 <sup>41</sup>	F	44	HL	secondary	metachronous	1.8	R	R	malignant	benign
Brown, 2018 <sup>42</sup>	F	65	facial paralysis	secondary	metachronous	1	L	BL	malignant	malignant
Eui-Kyung, 2018 <sup>43</sup>	F	32	aural fullness	primary	NA	NA	R	NA	benign	NA
Mummadi, 2018 <sup>44</sup>	M	53	pulsatile tinnitus, otorrhea, aural fullness	primary	NA	NA	R	NA	benign	NA
Pla-Gil, 2018 <sup>45</sup>	M	50	otorrhea, HL,	secondary	metachronous	2	R	R	benign	benign
Trupthi, 2018 <sup>46</sup>	F	50	HL, otorrhea	secondary	metachronous	4	R	R	benign	benign
Alghamdi, 2019 <sup>47</sup>	M	77	tinnitus, HL	secondary	metachronous	1.7	L	L	malignant	benign
Bayindir, 2019 <sup>48</sup>	F	77	otitis media, otorrhea	primary	NA	NA	R	NA	malignant	NA
Hasnaoui, 2019 <sup>49</sup>	M	59	HL, tinnitus, otorrhea	primary	NA	NA	L	NA	benign	NA
Adams, 2019 <sup>50</sup>	F	60	pulsatile tinnitus, HL	primary	NA	NA	L	NA	benign	NA
Metz, 2019 <sup>51</sup>	F	mid teens	HL	primary	NA	NA	L	NA	benign	NA
Fu, 2020 <sup>52</sup>	F	51	HL, otorrhea	primary	NA	NA	R	NA	benign	NA
Avallone, 2021 <sup>53</sup>	M	45	HL, aural fullness, otorrhea, pulsatile tinnitus	primary	NA	NA	R	NA	benign	NA
Marzouk, 2021 <sup>54</sup>	F	68	otitis media, HL, otorrhea	primary	NA	NA	R	NA	benign	NA
Vieira, 2021 <sup>55</sup>	F	36	otorrhea, HL, mastoiditis, facial paralysis	secondary	metachronous	10	BL	BL	malignant	benign
Thompson, 2021 <sup>56</sup>	M	54	otitis media, mass, tinnitus, aural fullness, otalgia	secondary	metachronous	0.5	L	BL	benign	benign
Current Report	F	53	aural fullness	secondary	metachronous	30	L	BL	malignant	malignant
Current Report	M	65	HL, otorrhea, dizziness/vertigo	secondary	metachronous	8	R	R	missing (presumed malignant)	malignant

Current Report	M	60	otalgia, HL, mass	secondary	metachronous	2	R	R	benign	benign
Current Report	M	68	HL	secondary	synchronous	0	L	L	malignant	malignant
Current Report	F	70	imbalance, HL	secondary	synchronous	0	BL	R	benign	benign
Current Report	M	45	HL	secondary	metachronous	3	BL	L	malignant	malignant
Current Report	M	70	otalgia, otorrhea	secondary	synchronous	0.3	BL	R	missing (presumed malignant)	malignant
Current Report	M	36	facial paralysis,otalgia, otorrhea, HL	secondary	synchronous	0	BL	L	benign	malignant

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