

**Table C14. Ultrasound studies: patient and lesion details**

Study	Inclusion/Exclusion Criteria	N Patients	N Lesions	N Completed Study	Median or Mean Age (Years)	Age Range (Years)	% Lesions (n/N) Malignant	% Lesions Palpable	Lesion Size Mean (Range)
Gokalp et al. 2009 <sup>55</sup>	Patients with solid breast lesions referred for US-guided core needle biopsy	49	94	49	53.6	27 to 89	41.5% (39/94)	NR	16.35 mm (5 to 35 mm)
Vassiou et al. 2009 <sup>8</sup>	Women with suspicious lesions diagnosed by physical examination or mammography, referred for biopsy	69	78	69	53	39 to 68	68% (53/78)	NR	NR
Liu et al. 2008 <sup>56</sup>	Consecutive patients with US-visible breast lesions who were referred for open surgical biopsy	108	108	104	44	19 to 86	41.3% (43/104)	NR	2.4 cm (0.5 to 7.6 cm)
Vade et al. 2008 <sup>57</sup>	Consecutive patients under the age of 20 with palpable breast masses	20	21	21	14.8	13 to 19	0%	100%	NR
Cha et al. 2007 <sup>58</sup>	Consecutive patients with solid breast lesions that were visible on US who were scheduled to undergo biopsy due to findings on mammography and/or physical exam	88	91	91	45	25 to 67	33% (30/91)	32%	13 mm (4 to 28 mm)

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Chala et al. 2007 <sup>59</sup>	Consecutive female patients with solid breast lesions who were referred for biopsy due to findings on mammography and/or physical exam	203	229	229	56	30 to 77	22.7% (52/229)	56.3% (129/229)	19 mm (5 to 62 mm)
Zhi et al. 2007 <sup>60</sup>	Consecutive patients with solid breast lesions	232	296	296	42	17 to 87	29.4% (87/296)	NR	15.5 mm (3.1 to 100.6 mm)
Cho et al. 2006 <sup>61</sup>	Consecutive patients with solid breast lesions that were visible on US who were scheduled to undergo biopsy due to findings on mammography and/or physical exam	141	150	150	46	25 to 71	40% (60/150)	38.70%	4 to 36 mm (range NR)
Pinero et al. 2006 <sup>53</sup>	Consecutive patients who were scheduled to undergo biopsy due to findings on mammography and/or physical exam, who were not pregnant	88	88	88	57.7	33 to 87	77% (68/88)	65%	NR
Ricci et al. 2006 <sup>16</sup>	Consecutive patients with breast lesions detected on mammography	48	50	50	58	40 to 81	76% (38/50)	NR	NR

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Forsberg et al. 2004 <sup>62</sup>	Patients with solid breast lesions detected on mammography and/or physical exam, who were mentally stable, not pregnant, and not breast-feeding	55	55	50	52	26 to 72	29% (16/55)	NR	NR
Meyberg-Solomayer et al. 2004 <sup>63</sup>	Female patients with breast lesions	65	65	65	54	16 to 96	64.6% (42/65)	NR	21.5 mm (2 to 70 mm)
Ozdemir et al. 2004 <sup>64</sup>	Patients with breast lesions that were not clearly cystic or benign, that were visible on US, who were likely to have followup data due to living near the study center, who were scheduled to undergo biopsy due to findings on mammography and/or physical exam	80	81	69	47.3	19 to 75	40.5% (28/69)	32%	16.1 mm (6 to 44 mm)
Chen et al. 2003 <sup>65</sup>	Patients with palpable lesions that had indeterminate mammographic results due to dense breasts	32	32	32	44.6	34 to 55	75% (24/32)	100%	NR

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Kook and Kwag 2003 <sup>66</sup>	Patients referred for diagnostic US after discovery of a palpable mass or mammographic abnormality that was 2 cm or smaller in diameter	36	36	36	43.5	18 to 69	47% (17/36)	NR	2 cm or less Mean and range NR
Marini et al. 2003 <sup>67</sup>	Consecutive patients with microcalcifications detected on mammography who were older than 27 years of age, and who had an US exam followed by either a biopsy or at least three years of clinical followup	238	238	238	55	31 to 98	39% (94/238)	NR	NR
Caruso et al. 2002 <sup>68</sup>	Patients with a single breast lesion 1 to 2 cm in diameter with no microcalcifications that was detected on mammography	36	36	36	55	42 to 63	56% (20/36)	NR	1 to 2 cm Mean and range NR

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Koukouraki et al. 2001 <sup>69</sup>	Women with abnormal findings on screening mammography who were scheduled for an open surgical biopsy	116	116	116	NR	25 to 78	74% (86/116)	32.70%	NR
Malich et al. 2001 <sup>35</sup>	Consecutive patients with equivocal mammographic abnormalities	94	100	100	NR	NR	62% (62/100)	NR	NR
Milz et al. 2001 <sup>70</sup>	Patients with indeterminate findings after mammography and examination who were referred for diagnostic US	102	118	118	51	15 to 77	47% (55/118)	NR	NR
Reinikainen et al. 2001 <sup>71</sup>	Patients with an US-visible breast lesion detected by palpation or mammography that was suggestive of malignancy or not conclusively benign	63	69	65	51	20 to 81	52.3% (34/65)	81.50%	NR

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Moon et al. 2000 <sup>72</sup>	Consecutive patients with suspicious non-palpable lesions detected on mammography who were scheduled to undergo surgical biopsy	69	69	50	52	30 to 67	44% (22/50)	0%	NR
Blohmer et al. 1999 <sup>73</sup>	Patients referred for biopsy because of a suspicious breast lesion	200	200	168 (regular US), 150 (Doppler US)	NR	NR	49.5% (99/200)	NR	NR
Chao et al. 1999 <sup>74</sup>	Patients with solid breast masses	3,050	3,093	3,093	38.7	14 to 86	24% (733/3093)	NR	2.1 cm (0.5 to 24 cm)
Schroeder et al. 1999 <sup>75</sup>	Patients with clinically suspected breast tumors after mammography and examination	92	110	110	46.1	17 to 79	65.5% (72/110)	NR	NR
Albrecht et al. 1998 <sup>76</sup>	Patients with breast lesions	20	20	20	47	22 to 74	55% (11/20)	NR	NR
Wilkens et al. 1998 <sup>77</sup>	Patients with palpable masses; those with obvious simple cysts were excluded	53	55	55	NR	13 to 81	40% (22/55)	100%	NR
Buadu et al. 1997 <sup>78</sup>	Consecutive patients referred for surgery due to breast masses or suspicious mammograms	114	117	116	49	15 to 78	72.4% (84/116)	NR	NR

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Stavros et al. 1995 <sup>79</sup>	Patients with indeterminate mammographic findings of solid lesions; obviously malignant lesions were excluded	622	750	750	47	18 to 88	16.7% (125/750)	NR	most were 1.5 cm or smaller Mean and range NR
Ciatto et al. 1994 <sup>80</sup>	Consecutive women with clinical or mammographic abnormalities who were referred for diagnostic US	2,079	2,079	2,079	48	14 to 93	12.5% (259/2079)	NR	NR
Perre et al. 1994 <sup>81</sup>	Female patients with palpable breast lesions	380	400	400	49.3	13.7 to 98.9	43.5% (174/400)	100%	NR

NR Not reported  
US Ultrasound